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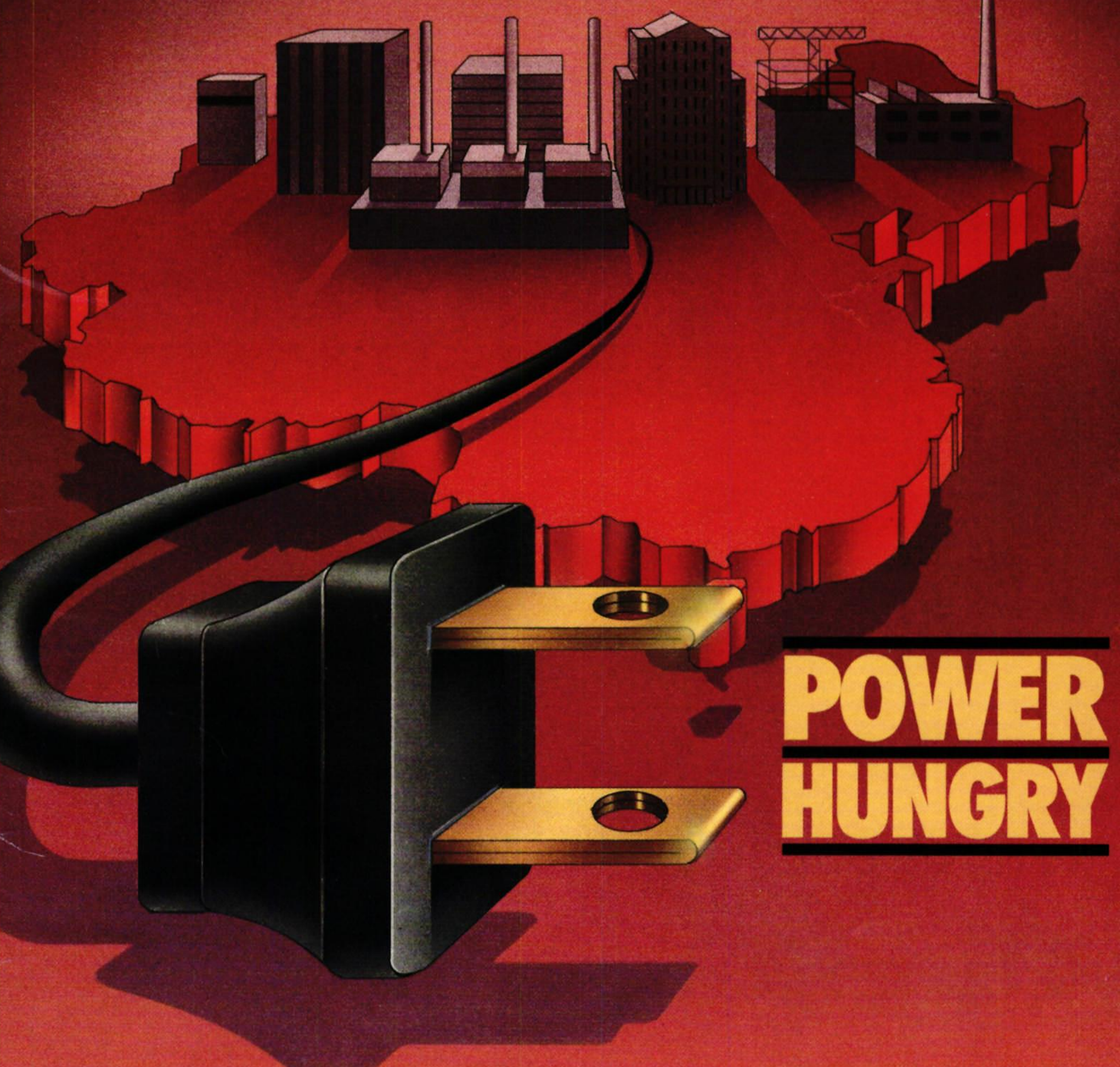

■ The foreign-exchange balancing headache

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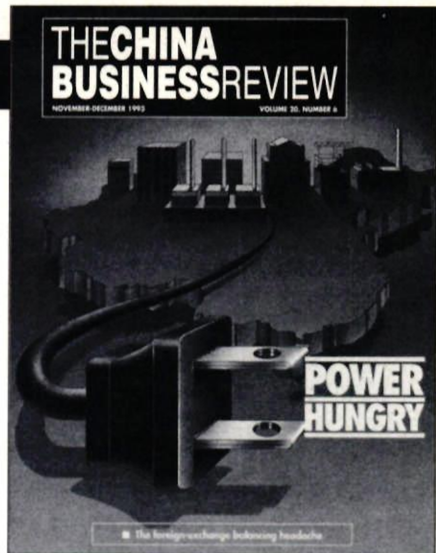

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New US Recipe for China Relations: More Honey, Less Vinegar

A policy stressing fewer threats and more inducements seems to be the core of President Bill Clinton's new formula for China relations. Acknowledging in September that relations between the two nations had drifted into "rough waters," the Administration formulated its new policy in the hope of ending the acrimony that marked US-China interaction over the summer and building a more positive framework for addressing US concerns in human rights, arms control, and trade.

Hammered out after months of intra-Administration review, Clinton's new China policy was communicated to Beijing at a late-September meeting between US National Security Advisor Anthony Lake and Chinese Ambassador to the United States Li Daoyu. Key components of the new policy include US reaffirmation of the one-China policy; a restated desire to cooperate on a range of common interests; a resumption of high-level contacts, including between militaries; and active promotion of trade links. At the same time, Lake emphasized that an improvement in China's human rights situation was imperative to ensure renewal of China's Most Favored Nation (MFN) status next year.

The Administration has already begun offering carrots to soften the MFN stick. New US government export promotion initiatives, including liberalization of export controls, are expected to boost US exports and provide China greater access to US technology (*see* p.5). To sweeten political relations, the United States sent Agriculture Secretary Mike Espy to China in mid-October and Treasury Secretary Lloyd Bentsen is expected to visit China soon. Treasury Department personnel say Bentsen will likely meet with People's Bank of China and Ministry of Finance officials to discuss foreign currency issues and press for greater opening of China's financial services markets. Resumption of bilateral economic commissions and military discussions may also occur in the near future.

Clinton himself will meet with Chinese President Jiang Zemin following the Asia Pacific Economic Cooperation (APEC) conference in Seattle in mid-November. Clinton is expected to use the occasion to underscore his commitment to the MFN conditions specified in an executive order in May (*see The CBR*, July-August 1993, p.6).

Human rights concerns

Many of these conditions focus on human rights, a front-burner issue for the Administration and Congress and one that touches a sensitive nerve in Beijing. In a sign that the Administration's new approach might yield more progress than previous actions, bilateral discussions on human rights issues have resumed. After waiting months for China to agree to his visit, Assistant Secretary of State for Human Rights John Shattuck traveled to Beijing in October for high-level talks on concrete measures China must take to safeguard MFN renewal next June. Shattuck described his Chinese counterparts as attentive and stated their "intensive" discussions have set the stage for the Clinton-Jiang meeting.

On trade issues, the office of the US Trade Representative (USTR) appears to be maintaining firm pressure on the Chinese to abide by their commitments under both the market access and intellectual property protection agreements, at the same time pushing for increased access to China's emerging services market. The one-year anniversary of the 301 market-access Memorandum of Understanding (MOU) (*see The CBR*, November-December 1992, p.9) passed without fanfare in October; the two sides continue to meet to iron out remaining 301 implementation problems, as well as enforcement problems under the Special 301 accord (*see* p.52).

Textiles are probably the chief source of current trade tension. Talks are at an impasse on the problem of Chinese textile transshipments, which US Customs estimates exceeded $2 billion in value last year. If unresolved, the issue could delay renewal of bilateral textile agreements and could lead to severe quota restrictions on imports of Chinese textiles. Other sanction threats have been triggered by China's trade in endangered species products and by unfair competition practices by Chinese air cargo carriers.

Convincing Congress

The Clinton Administration faces the challenge of convincing Congress its new policy of constructive engagement will result in the resolution of these and other issues. China's human rights, arms control, and trade practices continue to attract fire from Capitol Hill. Senator Edward Kennedy (D-MA), for example, is poised to introduce new code-of-conduct legislation for US investors in China, while Senator Paul Simon (D-IL) is seeking to halt shipment of Cray supercomputers to China in response to China's October underground nuclear test blast. Politicians and policy pundits will be watching to see what results Clinton's new approach to China yields. But many feel that after a summer of squabbles, face-to-face discussions are already a sign of progress.—*AF*

SHORT TAKES

China Takes Lion's Share of World Bank Loans

The World Bank's *Annual Report 1993*, released in late September, revealed that the Bank lent a record $3.17 billion to China in the fiscal year (FY) ending June 30. The Bank approved 18 loans for China in FY 1993 for a total of $2.2 billion in World Bank loans and $1.0 billion in International Development Association (IDA) credits. China, which has borrowed $16.5 billion from the World Bank and IDA to date, has clearly emerged as the leading borrower from the World Bank Group.

Reinventing Export Controls

Though the fanfare surrounding the release of the US government's Trade Promotion Coordinating Committee (TPCC) report last month was predictable, the committee's proposals for revising US export strategy were anything but. Chaired by Secretary of Commerce Ron Brown, the TPCC is comprised of representatives from 19 federal agencies, plus the National Security and National Economic councils.

The report recommends a number of major changes in US export promotion, export financing, and export controls policies. The proposed measures could mean good news for US business in China. Recommended actions include:

- Create a national network of "one-stop shops" to consolidate access to federal export promotion services.
- Produce a commercial strategic plan for each major US export market.
- Provide high-level US government advocacy on behalf of US companies seeking government procurement opportunities abroad.
- Increase substantially OPIC's investment insurance ceiling.
- Combat tied-aid practices of other nations.
- Increase to 500 MTOPS the control level for computer exports to most destinations and re-define supercomputers as those operating at 2000 MTOPS or higher.
- Reduce controls on key telecommunication technologies for civilian applications.

The recommendations are being reviewed by the Administration and it is unclear when they might be enacted. However, major progress has already been made in raising export control levels, thanks to the resolution of an intra-COCOM dispute between the United States and Germany. Germany has long insisted that any decontrol on computers be accompanied by a decontrol on telecommunications equipment and machine tools. US intelligence agencies oppose loosening controls on telecom exports to nations such as China and Russia for security reasons.

The exact nature of the reported breakthrough in telecom talks is unclear and industry insiders remain skeptical. However, the changes in control levels on computers are dramatic and have significant import for China. COCOM members have agreed to lift all restrictions on exports of computers of up to 67 MTOPS to previously controlled nations such as China; the previous control level was 12.5 MTOPS. COCOM member nations may further allow sales of computers up to 100 MTOPS at their own discretion. Computers that fall between 100 and 194 MTOPS will still require COCOM permission for export to proscribed destinations but will be given presumption of approval. Even these changes may soon be eclipsed if COCOM acts on an anticipated US proposal that the organization raise the ceiling on computer exports to 500 MTOPS.

The implementation of a proposed increase in the definition of a supercomputer will require a bilateral agreement between the United States and Japan, the two main supercomputer suppliers. Some analysts fear Japan may be recalcitrant over this issue because US manufacturers have a competitive edge in production of workstations and other high-end computers that fall between 195 and 2000 MTOPS.

—Sheila Melvin

Eximbank Widens its China Program

The US Export-Import Bank (Eximbank) will now accept applications for limited recourse project financing in China. This financing structure allows Eximbank loans or guarantees to be satisfied through whole or partial repayment from a project's cash flow, without a third party such as a foreign government or central bank acting as guarantor. US electric power companies are among those likely to benefit from the expanded export promotion program, as project financing would cover build-operate-transfer and other power-sector deals in China.

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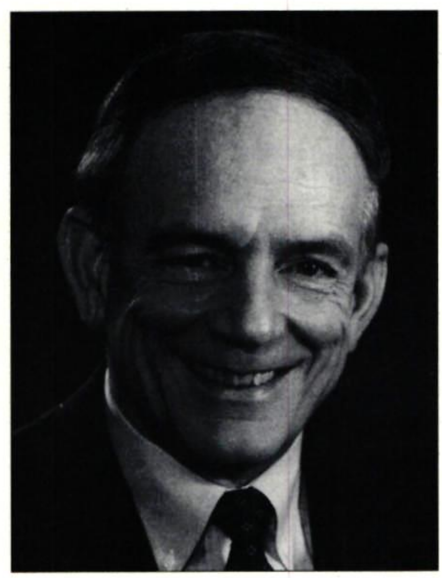

Boosting US Competitiveness in the Power Sector

■ J. Bennett Johnston

Over the past year, I have had the opportunity to travel in the People's Republic of China (PRC) and have seen first-hand the power of the economic forces that have been unleashed there. China's seemingly unbridled economic dynamism clearly presents numerous opportunities for American companies and strengthens our trade relationship with the PRC.

China's economic growth has brought with it the monumental challenge of producing more energy and using it more efficiently. Shortage of electric power is probably the major constraint on industrial growth and development in the PRC, and perhaps the largest source of business opportunities for US firms seeking to export or invest there. Guangdong Province alone, with a population of 65 million and a power shortage of 40-45 percent of current demand, probably represents a larger market for US energy suppliers than any single country.

To add to their power generation capacity, the Chinese have actively solicited joint-venture partners. They have talked to US industry and, in fact, have done considerable business with US vendors.

■ **Senator J. Bennett Johnston (D-LA) serves as majority chairman of the Senate Committee on Energy and Natural Resources.**

The Administration is now conducting a long-overdue review of US trade promotion programs and how they compare to those offered by competitor countries.

Yet, despite having the most advanced energy and environmental technologies in the world, the United States ranks fourth behind France, Japan, and Switzerland as sources of power generation equipment, according to industry sources. The irony is that while we express concern about China's growing trade surplus with the United States, we have lagged well behind our competitors in creating the environment for our own industry and workers to compete aggressively in this burgeoning market. Unilateral export controls, remnants of the Cold War, have frustrated the efforts of US power companies in particular to compete in China with suppliers from other countries.

The US government must do everything it can to identify and eliminate unilateral barriers that stand in the way of balancing the US-China trade relationship. To that end, the US departments of Commerce and Energy led an industry delegation to China this summer to investigate China's electric power market. The industry mission identified several major impediments to US penetration of that market (*see* p.7) and presented to the US government constructive proposals to remedy the situation.

One of the major constraints identified by mission participants was US export controls on power equipment freely available in the international market. The Administration recently announced a revision of US controls in such areas as computers and electronic equipment to bring the restrictions in line with the state of modern technology (*see* p.5). Under the revisions, controls will remain only on technology that is truly sensitive and should not be commercially available. This change will benefit vendors of sophisticated electric power environmental-control and monitoring systems. However, sales to China of other US-developed power-related technologies are still proscribed under US law, with the result that these technologies are being sold to the PRC by foreign vendors. It is critical that the US government comprehensively review—on an ongoing basis—export control policies that disadvan-

tage US business, in order to maintain US industry's position in the forefront of technological development and ensure the United States does not fall behind its competitors in this era of dynamic technological change.

The industry group report also calls into question US policy on export promotion. Competitor countries provide their companies with financing mechanisms and other trade-promotion assistance to lessen the risks of entering new markets. Such arrangements are crucial in markets such as China where the currency is not freely convertible. The Clinton Administration is now following up with a long-overdue, comprehensive review of US trade-promotion programs and how they compare to those offered by competitor countries.

China's huge energy needs and great reliance on coal provide many avenues for mutually beneficial cooperation between the United States and China. By helping to boost China's energy generating capacity and efficiency, the United States will reduce the serious environmental consequences of China's dependence on coal as well as fuel China's economic liberalization, thereby indirectly promoting the opening of Chinese society. In addition, sales of US technology and services to China's energy sector will bolster US economic competitiveness. China plans to add about 150 new power plants by the year 2000; US clean-coal, energy-efficiency, and environmental technologies can and should play a prominent role in meeting this goal. The results of US involvement will be more and cleaner energy for China, and more high-technology, high-skilled jobs for US workers.

Recommendations of the US Electric Power Mission To China

Editor's Note: In June, 24 US firms in the electric power and related industries traveled to China to learn about Chinese plans for developing the country's electric power sector. The delegation visited Beijing, Shanghai, and Guangzhou, and met with 500 high-level Chinese electric power officials. Organized and sponsored by the departments of Energy and Commerce, the mission submitted a report to Secretary of Energy O'Leary upon its return, urging the US government to take steps to reduce administrative barriers to US sales of power equipment to China. An excerpt of their recommendations follows.

■ **Resume Trade and Development Agency (TDA) and Overseas Private Investment Corp. (OPIC) programs in China** US sanctions imposed after Tiananmen prevent TDA and OPIC from operating in China, thereby impeding US sales and investments. The electric power industries in competitor countries have available to them a full range of support services of the type TDA and OPIC offer (primarily feasibility study funding and training grants from TDA and commercial and political risk insurance from OPIC). The team recommends that the Administration take action to remove this crippling limitation on US exports and project investments.

■ **Permit US AID funding in support of US industry in China** In other countries that are moving from directed economies toward market economies, AID funds have been used to build relationships that strengthen the commitment to a free market. One area in which these funds could be of particular importance is to support utility partnerships, which develop long-term working relationships between US and foreign companies involved in electric power production. Such a program could boost Chinese interest in US goods and services, as the Chinese have indicated a strong interest in receiving training for Chinese utility managers and operators to assist with the dramatic changes taking place in the organizational and financial structure of China's electric power industry.

■ **Fund demonstration projects in China under the Energy Policy Act** Demonstration projects would be invaluable for building confidence in US technology that is not commercially deployed in China. Japan is already demonstrating environmental technologies such as scrubbers. A federal program to provide financial assistance to US industry to carry out similar demonstrations will be required since demonstrations of advanced technology are usually not economically competitive with conventional systems.

■ **Prepare a report of the trade assistance practices of major US competitors** This compilation should include the inducements offered by foreign governments as well as the corresponding offering, if any, from the US government. Of course, should the US government be more generous in any given instance, this fact should be duly noted. This information should be used by the US government to review current US policies with a view to providing a level playing field for US companies.

■ **Revise US rules on sales of nuclear power plant equipment** Noting that China has signed the Nuclear Non-Proliferation Treaty, the US government should review current policy on the export of nuclear technologies associated with the production of electric power. China has an ambitious program for building nuclear power plants, but US firms can neither compete for these projects nor provide non-nuclear exports to nuclear plants. The results are that China imports this equipment from US competitors. Between 1994-2010, we estimate China's nuclear electric export market to be worth $4.7 billion, which could provide 450,000 US jobs.

■ **Liberalize Eximbank funding** Currently, legal restrictions prohibit Eximbank from extending individual loans to

The foreign competitors of US firms do not face annual reviews of MFN and hence gain another competitive advantage over US companies.

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China in excess of $50 million unless the President waives this prohibition on the grounds that the loan is in the US national interest. The need to receive these waivers injects uncertainty and risk into the commercial process.

■ **Change the annual MFN review process so as not to impact negatively on long-term projects** The annual review virtually assures that every year the issue will be raised and debated with great publicity. While MFN status to China has never been denied through this process, the debate places additional strains on the United States-China relationship and thus on the business transactions of US companies. The uncertainty is especially problematic for long-term projects, such as those involving sales and investment in China's electric power sector. The foreign competitors of US firms do not face annual reviews of MFN and hence gain another competitive advantage over US companies. 完

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A Tough Balancing Act

■ John Frisbie and Richard Brecher

US investors still find China's foreign exchange rules hard on business

■ **Richard Brecher is director of the US-China Business Council's Business Advisory Services in Washington, DC. John Frisbie was director of the Council's Beijing office from September 1988-November 1993. Dan Martin assisted in the research and preparation of this article.**

By all accounts, foreign direct investment in China is booming. The number of new contracts approved by the Ministry of Foreign Trade and Economic Cooperation (MOFTEC), the dollar volume of these contracts, and the amount of capital utilized each year continue to rise rapidly. Over the past two years, growth in all three exceeded 300 percent on an annual basis.

As their numbers grow, foreign-invested enterprises (FIEs) are beginning to have an impact on China's economy. FIEs now account for more than 20 percent of China's exports, mainly due to a shift of export manufacturing from Hong Kong, Taiwan, and other parts of Asia to the mainland. These projects have become large foreign exchange earners for their investors and, to some extent, China.

However, many FIEs are established to crack China's domestic market. These projects often are unable to export due to cost and overseas market conditions, yet have hard currency expenses. As a result, these FIEs have one thing in common: a foreign exchange balancing problem.

A dearth of hard currency

The reason for this problem lies in two basic factors. First, the *renminbi* (RMB) is an inconvertible currency, meaning RMB earned on domestic sales is not readily converted into foreign exchange. Second, China's investment regulations require FIEs to "balance" foreign exchange, i.e., ensure that their hard currency revenues cover their hard currency expenditures.

The CBR has covered the foreign exchange balancing issue extensively over the past five years. The development of China's foreign exchange adjustment centers—better known as swap centers—over this period led Chinese policymakers and foreign investors to believe the swap center system provided investors adequate access to hard currency (*see The CBR,* March-April 1992, p.14 and March-April 1988, p.24). This year, however, extreme volatility in the swap center exchange rates and a substantial drop in the availability of hard currency in the swap centers have demonstrated what the US-China Business Council has maintained all along—that relying solely on the swap centers to balance foreign exchange is a risky proposition.

An FIE profile

Because of the importance of the foreign exchange balancing issue and the difficulties foreign investors using the swap centers face, the Council recently surveyed manufacturing FIEs in China to ascertain which methods they use to balance foreign exchange and the relative success of these efforts. The survey questionnaire was mailed to 105 FIEs located throughout China. Most were US investment projects, but a few European and Japanese FIEs were contacted as well.

Survey results from 41 respondents (38 joint ventures and 3 WFOEs) were tabulated. The respondents are all manufacturing projects, most of which involve multinational companies and produce goods primarily for the China market. As a result, the average capitalization of these FIEs is far greater than the $1-2 million range of most China FIEs, which tend to be smaller, lower-technology, export-oriented Hong Kong-invested projects. The average total capitalization for our sample was $13.8 million, with a range of $1.5 million-$100 million. Sixteen percent of the sample reported total capitalization of greater than $25 million.

To gain a better understanding of how FIEs have addressed their foreign exchange needs over time, we targeted FIEs that have been in operation for several years. In our sample the average length of time in production is five years, with 68 percent of the enterprises in production for five years or more.

The FIEs in our sample are also heavily concentrated in coastal metropolitan areas, where most multinational companies have tended to invest thus far. Eighty-six percent of the respondents are concentrated in three areas: Beijing and Tianjin (33 percent), the Shanghai-Yangtze River Delta (37 percent), and Guangdong Province (16 percent).

No single method

Our survey first sought to ascertain how much foreign exchange is needed by FIEs to operate. Typically, an FIE will need foreign exchange to pay for imported materials and production components, technology licensing fees, expatriate costs, and—at some point—profit repatriation. In our sample, nearly half of those surveyed (49 percent) have foreign exchange needs of at least $5 million per year (*see* table).

A clear message from this survey and a previous Council survey conducted in the fall of 1991 (*see The CBR*, March-April 1992, p.15) is that most FIEs—apart from those that are solely export production bases—rely on more than one method to balance foreign exchange. In our recent survey, 46 percent of the respondents reported they utilize three or more methods to balance foreign exchange, while only 17 percent rely on a single method.

Most FIEs—apart from those that are solely export production bases—rely on more than one method to balance foreign exchange.

In the Council's previous foreign exchange survey, 13 percent of the enterprises relied on a single method to obtain all of the FIE's hard currency.

For most of the FIEs surveyed, swap centers are the leading means for obtaining foreign exchange, a finding consistent with that of the earlier survey. Nearly three-quarters (29 FIEs) of the respondents use the swap centers, which on average provide about 55 percent of their foreign exchange needs. Fourteen of these projects use the swap markets to meet 70 percent or more of their foreign exchange requirements (*see* chart, p.11).

Annual Foreign Exchange Needs of Surveyed FIEs

Amount Needed	Percent of Respondents	Average Capitalization of Respondents
Under $1 million	24.4	$ 5.0 million
$1–5 million	26.8	$ 7.7 million
$5–10 million	14.6	$15.7 million
$10–50 million	26.8	$16.3 million
Over $50 million	7.3	$49.0 million
Total	100.0	$13.8 million

Pressure to export

China's investment authorities have always preferred that FIEs rely on exports to generate hard currency. Certainly, any FIE that can export is able to reduce its dependence on less reliable foreign-exchange balancing alternatives such as the swap centers. Of the FIEs surveyed, 64 percent export finished products, but such exports account for only 34 percent of their foreign exchange needs on average. Seventeen percent of the FIEs surveyed derive at least half of the foreign exchange they need through exports, but these are primarily smaller companies; only one respondent in this group requires more than $10 million per year in hard currency.

China's preference for FIEs to export is also based on a desire to prevent foreign investment from draining China's foreign exchange. As a result, Chinese negotiators and approval authorities often push for an export commitment in FIE contracts. Indeed, 80 percent of the sample reported that their FIE contracts contain export clauses. Thirty-nine percent of those clauses are written as firm commitments, while 61 percent are non-binding targets. No correlation was found between FIE location and the contractual export commitment.

Whether or not the export clause is binding, only 30 percent of the responding FIEs indicated they are currently meeting their export targets. At the same time, 58 percent of those with export clauses said they are being pressured to meet their targets. In most of these cases (79 percent) such pressure comes from the Chinese partner, while the FIE's government "department in charge" was cited by 21 percent of the group. One company identified the local foreign exchange bureau as pressing the FIE to export, while another cited the State Planning Commission as the source of such pressure.

About a quarter of the FIEs in our survey export components or parts to an affiliated company abroad. Such sales on average account for 23 percent of the foreign exchange needs of these FIEs. Only 5 percent of the sample derive at least half of their foreign exchange via this method, however, and in all cases, the foreign exchange generated in this manner was less than $1 million per year.

Another 24 percent of the sample purchase Chinese products with RMB and export these goods to earn foreign exchange. However, most of the ventures utilizing this method have relatively small foreign exchange needs. One company, however, claimed that this method accounts for roughly 20 percent of its $10-50 million annual hard currency needs.

Tapping dollars in China

FIEs need not always export from China to raise hard currency; they can sell their products in China for foreign exchange, provided there are customers able and willing to use their hard currency to purchase locally made goods. Some FIEs will accept a mix of foreign exchange and RMB for their products, a compromise which often proves attractive to a Chinese customer who otherwise would have to pay exclusively in hard currency for an imported alternative.

In our sample, domestic sales for hard currency are relatively common (34 percent of the sample), and for those that use it, this balancing method accounts for a substantial share of their foreign exchange needs (average of 42 percent). Fifteen percent of the sample derive at least half of the foreign exchange they require via this method.

Other methods of raising foreign exchange include earning foreign exchange commissions through sales of the FIE's parent company's imported products (10 percent) and importing production inputs through a Chinese trading company (7 percent). The latter approach allows FIEs to pay the trading company in RMB, whereas importing directly would require payment in hard currency.

> Only one of our respondents indicated it was able to complete all of its planned swap transactions in the first half of the year.

Our survey clearly reveals that "import substitution" should *not* be viewed as a viable method of balancing foreign exchange. For many years, foreign investors sought Chinese government assistance under the 1987 import substitution measures and the now-infamous Article 75 of the 1983 Equity Joint Venture Law Implementing Regulations, which states that the government will solve foreign exchange imbalances. In practice, however, few FIEs were ever able to obtain or implement such guarantees. Our survey fully supports this conclusion: only a single company indicated it is able to get a government department or other Chinese entity to convert RMB earned through domestic sales into foreign exchange, and these transactions meet only 10 percent of the venture's total foreign exchange needs.

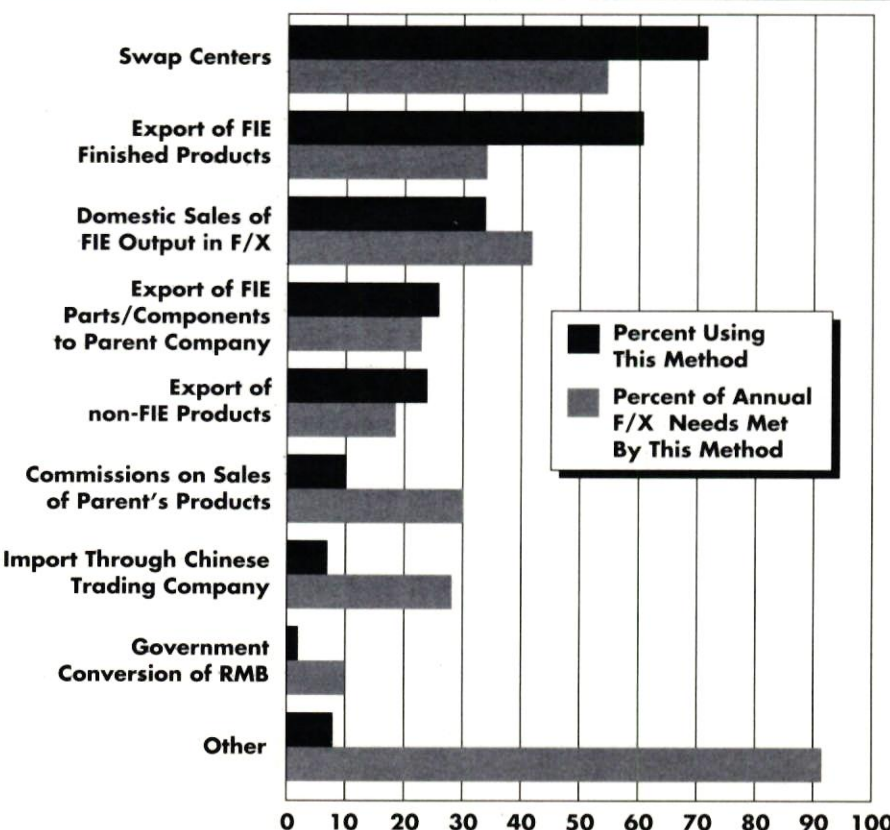
Swapping RMB for dollars

Given the prevalent use of swap centers, our survey included several questions aimed at generating data on FIE currency trading practices and experience. Of the 31 surveyed companies that use the swap centers, 71 percent use the centers to purchase hard currency. Only five respondents reported selling foreign exchange at the swap centers, and two of those both buy and sell. The frequency of trading varies considerably: 7 FIEs reported using the swap centers on a daily or weekly basis, while the majority used the centers on a monthly basis or only once every few months.

Nearly every responding FIE reported it trades only at the swap center in the city or province where it is located. Within the past year, only 10 percent had used swap centers in another location, though twice as many had tried but failed to complete transactions at another center. These results parallel the findings of the Council's 1991 survey, which indicated that regional protectionism constrains the ability of FIEs to swap in multiple markets. The current strong demand for hard currency reinforces the tendency for local State Administration of Exchange Control (SAEC) officials to discourage swap market transactions in which hard currency leaves their jurisdiction.

Each of the responding FIEs trades anywhere from under $1 million to $100

Foreign Exchange Balancing Methods



million per year on the swap markets. A majority (59 percent) of those who use the swap centers traded less than $5 million last year, although 29 percent traded more than $10 million. Individual swap transactions ranged from $10,000-$1 million, with an average of just under $250,000 per trade. The average size of each transaction tends to correspond to the size of the swap center where the deal is concluded: the average transaction for respondents using the Shanghai swap center, China's largest, was $350,000.

In the first half of 1993, government-imposed rate ceilings dried up the pool of dollars at the swap centers, pushing many currency trades onto the black market, where dollars were bought and sold at a premium. Reflecting dollar holders' reluctance to sell foreign exchange at these suppressed rates, 18 FIEs (44 percent of the survey sample) reported that they had been approached to buy foreign exchange outside of the swap centers. Nine of the 18 confirmed they completed off-market trades.

Although the removal of the rate ceilings on June 1 brought some foreign exchange back into the swap centers, 25 of the 28 FIEs who provided responses to this part of the survey indicated that the supply of foreign exchange available at the swap centers is still insufficient. An overwhelming 85 percent stated that foreign exchange availability this June was tighter than it was in June 1992. Clearly, the swap centers are not supplying as much foreign exchange as investors would like.

As a further illustration of swap center liquidity problems, only one respondent indicated it was able to complete all of its planned swap transactions in the first half of the year. Fifty-eight percent of the FIEs reported they were able to complete no more than half of their planned swap transactions because of the lack of dollars in the swap markets.

The weakening of the swap market exchange rate has further compounded the foreign exchange balancing burden on FIEs by forcing them to buy more RMB to purchase whatever foreign exchange has been available. FIEs have responded in a number of ways to compensate for the increased difficulty of buying dollars (*see* chart).

Looking ahead

It is important to note that our survey was conducted in June, immediately after the Chinese government removed the administrative controls on the swap center exchange rates imposed in February. These controls had kept the swap rates at approximately ¥8.2/$1, far lower than black market rates. With the removal of the controls in June, swap rates immediately climbed to levels approaching ¥11/$1. Our survey was completed before the government again intervened in July to push swap rates below ¥9/$1; most swap markets around the country were reporting rates between ¥8.5-9/$1 as *The CBR* went to press.

Asked to predict year-end official and swap market exchange rates, 76 percent of the respondents stated in June that swap rates would remain at ¥10/$1 or more. Since then, of course, the government and the People's Bank of China have brought the rates down and have expressed their intention to keep the swap rates at current levels or lower for the foreseeable future. Thus, while the forecasts of our respondents failed to foresee the government intervention, their responses still make an important point: China, with its unpredictable government policies, is a difficult and often frustrating operating environment in which to formulate and implement FIE business plans.

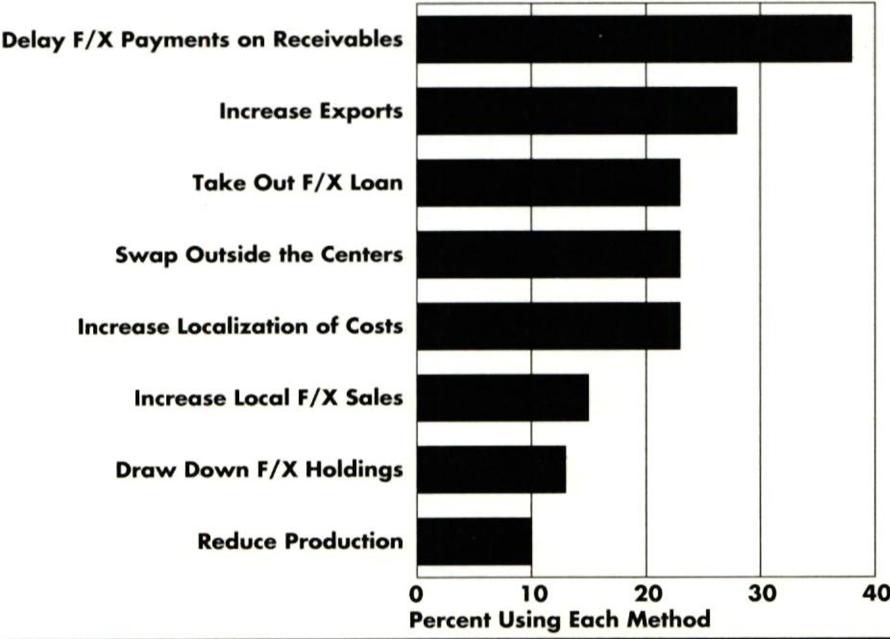
As far as the official rate goes, at the time of the survey, more than half of the FIEs expected the RMB to be devalued by at least 15 percent by the end of the year, while over one quarter of the respondents predicted an official devaluation of at least 30 percent, based on the June 19 official rate of ¥5.79/$1.

Effects of retrenchment

In the short run, the current efforts by the central government to re-establish macroeconomic control may improve the swap center situation for FIEs. As the banks tighten RMB credit, domestic enterprises may begin to sell foreign exchange into the swap centers to gain access to RMB, thereby boosting the availability of foreign exchange and putting downward pressure on the swap rates. During the 1989-91 austerity program, a similar trend lulled many into thinking the swap centers had answered the foreign exchange balancing problem.

However, the unpredictability of the government's economic policies and Beijing's hold over the swap centers make it difficult for foreign investors to rely upon the swap centers as a dependable source of hard currency. While the swap rates themselves often move according to currency supply and demand in the individual swap centers, the amount of currency available can change tremendously depending upon China's trade balance,

Tactics for Coping with Swap Center Shortages



import policies, and money supply. In addition, the government from time to time tightens controls over access to the swap centers and approval of individual transactions, and reserves the right to control swap rates administratively when trading conditions are "not normal." Under these circumstances, foreign companies—particularly those planning large investments—should avoid structuring projects that would rely on the swap centers to provide the bulk of their foreign exchange.

The foreign exchange balancing problem is not likely to go away soon. State Council investment policy officials have privately told the Council they expect the situation may worsen as more and more companies set up FIEs aimed at the domestic market. These officials are again recommending that investors take a hard look at export possibilities, which remain the most reliable and controllable—albeit not always plausible—method to generate foreign exchange. Despite much speculation to the contrary, China's currency is not likely to be made freely convertible for several years, barring a major change in economic policy (and by implication the political situation).

In the meantime, the best investors can hope for is the introduction of partial convertability programs that might provide a measure of relief for foreign investors. For instance, authorities might consider granting reliable convertibility privileges to selected foreign investment projects that fit into China's priority industrial plan. For the moment, however, Chinese policymakers are not considering such special measures, and foreign exchange balancing is thus likely to remain a thorny problem for FIEs in China. 完

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Stepping Out The Door

■ Friedrich Wu

Chinese companies are upping their investments abroad

■ **Friedrich Wu is vice president and head of the Economic Research Department at the Development Bank of Singapore (DBS Bank). He has authored many articles on China and Southeast Asia and holds a Ph.D. from the University of Washington. The views expressed in this article are those of the author and do not necessarily represent those of DBS Bank.**

Since it opened its doors to the world in the late 1970s, China has achieved spectacular success in attracting capital from abroad to spur the country's economic development. By the first half of 1993, the Ministry of Foreign Trade and Economic Cooperation (MOFTEC) had approved a total of $167.3 billion in foreign direct investment. While the Chinese economy has benefited enormously from the more than $43 billion that has been utilized thus far, investment hasn't flowed in just one direction. Over the past five years, China has also emerged as a global exporter of capital.

The latest data released by MOFTEC indicate that at the end of 1991, China had 1,008 enterprises operating in 105 countries and territories (*see* table). More than one-third of these firms were concentrated in Organization of Economic Cooperation and Development (OECD) member countries. According to MOFTEC, the cumulative value of China's global investments slightly exceeded $3 billion.

Statistics supplied by the People's Bank of China (PBOC) to the International Monetary Fund put the amount at $5.4 billion, however. While MOFTEC vets and approves foreign investment applications by Chinese enterprises, PBOC, through its subordinate, the State Administration of Exchange Control, is the agency which actually regulates all outward foreign exchange remittances. The PBOC's numbers, therefore, are probably more accurate.

In any event, both figures likely grossly underestimate China's real capital outflow, much of which is not approved by the government. Numerous Chinese State enterprises, as well as provincial and municipal authorities, have set up shell companies in Hong Kong to funnel their foreign exchange abroad. Many of these mainland entities have also invested substantially in the territory—unofficial estimates put China's total investment in Hong Kong in the $15 billion range. Most of this investment lacks the MOFTEC or PBOC stamp of approval, and may therefore be subject to closer scrutiny by the Chinese government under the current austerity program. Chinese investments in Hong Kong are unique, however, since these projects will probably be reclassified as domestic investments by both Beijing and multilateral institutions when China reclaims its sovereignty over the British territory in 1997.

A cosmopolitan investor

Even excluding those in Hong Kong, the multitude of China's foreign affiliates and their global reach are impressive, especially considering that as late as 1986, there were only 261 Chinese firms pursuing business in 54 countries. Indeed, China's drive to invest overseas did not gain momentum until the second half of

Number of Chinese Enterprises Overseas

Year	Number of Enterprises	Number of Countries
1985	169	45
1986	261	54
1987	385	67
1988	526	79
1989	645	88
1990	801	na
1991	1,008	105

SOURCE: MOFTEC

the 1980s. Prior to 1987, PBOC-reported foreign investment averaged slightly over $330 million per annum. In the subsequent four years (1988-91), however, China's annual overseas investment soared to more than $800 million on average.

MOFTEC statistics on the geographical distribution of China's overseas investment reveal that Chinese capital has been flowing primarily toward the developed countries (*see* chart). Australia, Japan, North America, and Western Europe account for 76 percent of China's total cumulative direct investment abroad. The six Association of Southeast Asian Nations (ASEAN) countries—Brunei, Indonesia, Malaysia, the Philippines, Singapore, and Thailand—as a group have received 5.0 percent, while Hong Kong's 5.2 percent share almost certainly undercounts real capital movement to the territory.

With these regions absorbing an overwhelming 86.2 percent of China's total investment abroad, other areas of the world clearly have not been major recipients of Chinese investment. Though China does have 100-plus investments worth a total of $92.2 million in Africa, these projects are probably the remnants of Chinese aid projects initiated in the 1960s and 1970s.

Information on the sectors in which Chinese firms are investing is dated and can therefore offer only a tentative glimpse of China's foreign investment priorities. The latest available figures indicate that through 1987, China's foreign investments were directed primarily at the manufacturing sector, which absorbed 45 percent of the total. Agriculture and mining together absorbed 26 percent, while construction and services attracted the remaining 29 percent. Recent press reports and anecdotal evidence suggest that these proportions remain basically unchanged, although investment in service-related industries may have risen.

The pull of hard currency

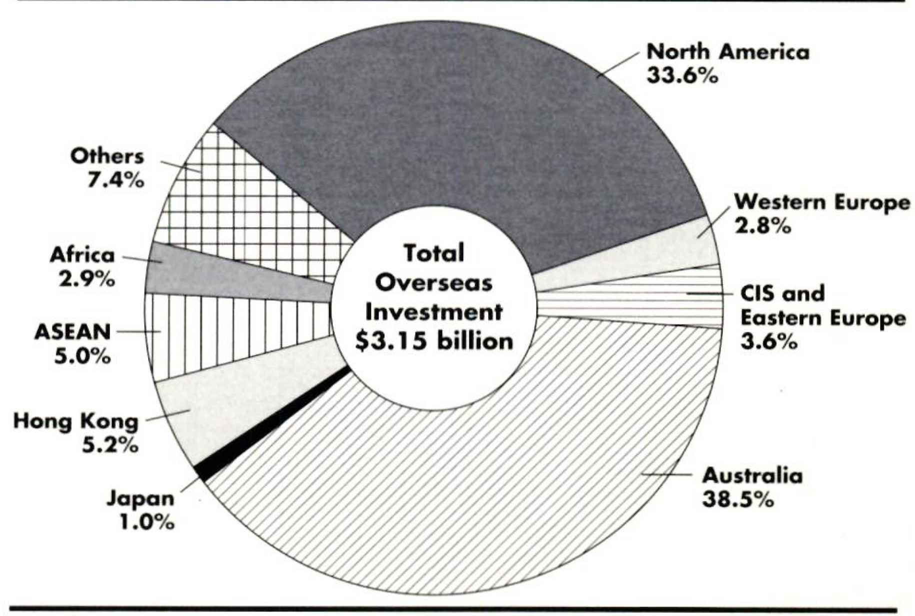
In Japan and the newly industrializing economies of East Asia (Hong Kong, Singapore, South Korea, and Taiwan), outward investments have been driven principally by "push" factors such as appreciating currencies, growing current-account surpluses, rising labor shortages, escalating operating costs, and small, saturated domestic markets. China's foreign investments, in contrast, have been triggered mainly by "pull" factors, such as the desire to raise foreign exchange income, circumvent host-country trade barriers, penetrate new markets, acquire advanced technology and modern management skills, and secure uninterrupted supplies of key natural resources.

Indeed, these are some of the requirements promulgated by MOFTEC in its 1985 "Procedures for Examination and Approval for the Management of Non-Trade Joint Ventures Set Up Abroad" and used by the agency as criteria to vet foreign investment applications by Chinese enterprises. The emphasis on generating hard-currency earnings and access to technology is evidenced by the high concentration of Chinese investment in the OECD countries, while the stress on tapping essential natural resources (especially metals and forestry products) is underscored by the substantial amount of funds pouring into projects in this category (*see* list).

China's "Big Three"

The rapid acceleration of China's overseas investment in recent years has fostered the advent of PRC-based transnational corporations. A few, such as the Bank of China (BOC), China International Trust and Investment Corp. (CITIC), and China National Chemicals Import-Export Corp. (SINOCHEM), have evolved into multinational corporate giants. Unlike SINOCHEM, which falls under the supervision of MOFTEC, and BOC, which is overseen by the PBOC, CITIC reports directly to the State Council. As such, CITIC's extensive offshore operations

Geographic Distribution of China's Overseas Investment*



* 1949–1991
SOURCE: MOFTEC

might not be totally reflected in either MOFTEC or PBOC statistics.

These three Beijing-based transnational corporations are the leviathans among the growing number of Chinese enterprises venturing abroad. Such large and diversified companies enjoy many advantages over their smaller counterparts, including better trained management, stronger balance sheets, wider political connections, and higher public profiles. Consequently, these three firms have been accorded better credit ratings in world capital markets than smaller Chinese investors, facilitating their fund-raising efforts in the countries where they want to invest. These enterprises may well become China's future corporate titans.

■ **BOC** As the primary financial institution handling the State's foreign-exchange transactions, BOC has been embarking on an aggressive expansion campaign since the inception of China's open policy in the late 1970s. From 1979-89, BOC's total offshore assets shot up sevenfold to reach $58.2 billion. By 1991, the bank's overseas assets had nearly doubled to $95.3 billion, about half the size of its domestic assets. During the same year, BOC's overseas deposits surged 16 percent to reach $42.1 billion, about one-third the size of domestic deposits. By these yardsticks, BOC was ranked the world's ninth most-globalized bank by London's *The Banker* magazine earlier this year.

Accompanying the spectacular expansion of BOC's offshore assets and deposits during the 1980s was the rapid extension of the bank's international network. Prior to the open policy, BOC's overseas branches, offices, and subsidiaries were limited to locations in Hong Kong, Macao, London, Singapore, and Luxembourg. By 1989, BOC had established a presence in all the world's major financial centers as well as in tax havens such as Grand Cayman and Panama.

Despite BOC's gargantuan offshore assets and deposits, the bulk of the bank's funds are located in Hong Kong. BOC and its Hong Kong subsidiaries have built a vast network of over 300 branches and offices employing more than 15,000 staff in the territory. Data released in 1991 by Hong Kong's now-defunct Office of the Banking Commissioner indicates that the BOC group collectively accounted for 21 percent ($37.4 billion) of the territory's $178 billion total banking deposits. That amount contributed a significant 89 percent to BOC's worldwide offshore deposits of $42.1 billion that year.

Though Hong Kong will remain extremely important to BOC's international operations, the 1990s are likely to see the bank spread its wings further afield. After receiving an injection of $2.17 billion from the central government in late 1992 to boost its capital reserves, BOC reportedly has targeted Canada, the Commonwealth of Independent States (CIS), South Korea, Italy, Southeast Asia, and Vietnam in its global diversification plan.

■ **SINOCHEM** Though it has been operating for some time as a specialized trading firm in chemical and petroleum products, SINOCHEM only began to venture abroad in 1987. Among its largest offshore ventures are a 50 percent stake in the US-based Pacific Refining Co. and 100 percent ownership of a phosphorus mine and a chemical fertilizer plant in

DEALS

China's Investments Abroad, 1990-93

Africa

China National Gold Corp. agreed to mine gold and precious stones with a local partner in Madagascar. 7/93

China Sichuan Corp. for International Techno-Economic Cooperation established the Eastern Africa Construction Co. Ltd. joint venture in Uganda. 7/91

Shanghai Bicycle Corp. established a joint venture in Ghana to produce Phoenix bicycles. 12/90

The Americas

Ping An Insurance Co. of Shenzhen incorporated Ping An Insurance (USA) Co. in Wilmington, DE to provide coverage for trade and joint ventures between US companies and China. 1/93

Capital Iron & Steel Corp. bought Hierro-Peru, a Lima-based iron company. 11/92

Shanghai Huada Electrical Co. established a joint venture that will produce cores and wires from raw Chilean copper. 10/91

ASEAN

China National Petroleum Corp. formed Petroasia Co. with Charoen Pokhand Group to engage in the petroleum business in Thailand and Laos. 7/93

CITIC and a consortium of Indonesian companies agreed to establish a rayon-fiber manufacturing joint venture in southern Sulawesi. 6/92

Wujiang Medical and Health Care Products Factory agreed to establish a joint venture in the Philippines to produce medical materials for the US market. 7/91

Shandong Gold Dragon Domestic Appliance Factory established the Golden Horse Domestic Appliance Co. Ltd. joint venture in Penang, Malaysia to produce household electrical appliances. 2/91

China National Metals and Minerals Import-Export Corp. established the Minnat Resources metals and minerals distribution joint venture in Singapore. 1/91

Northeast Blessing Piano Factory established the Nordiska Piano Co. Ltd. joint venture in Thailand. 12/90

China Travel Service established the PT Cempaka Travelindo Service joint venture in Singapore to promote tourism and

the United States. Between 1989-91, SINOCHEM's annual overseas investment averaged $208 million.

By the close of 1991, the company had established 77 foreign subsidiaries, joint ventures, and representative offices in some 20 countries and territories on all continents except Africa. Over 200 of SINOCHEM's staff were deployed outside China, while its overseas affiliates employed a collective total of nearly 1,000 local workers. Combined offshore business volume surged to $3.7 billion—about 31 percent of the company's total turnover—from just $1.9 billion in 1988.

A major factor accounting for SINOCHEM's impressive globalization endeavors has been the company's strong financial position. During the 1989-91 period, net income averaged nearly $150 million—no small achievement for a State enterprise. SINOCHEM's total consolidated assets were reported at $3.8 billion by year-end 1991.

Another reason for the company's success is its strong commitment to professional management, research, and development. SINOCHEM claims that 90 percent of its 1,000-plus headquarters staff have received tertiary education, rendering the enterprise one of China's best-equipped in terms of human capital. The company's research and development efforts have been spearheaded by the SINOCHEM Institute of Biotechnology and the SINOCHEM Research Institute of International Petroleum and Chemicals Trade. The technology institute conducts bioengineering, cancer, and AIDS research. The research facility strives to pioneer scientific and technological innovations, and also analyzes overseas market intelligence and conducts feasibility studies for foreign investment projects.

Today, SINOCHEM is a well-diversified group with interests in financial services, storage and transport, insurance, leasing, biotechnology, tourism, advertising, and trade exhibitions. Its recently declared aim to raise the firm's international business volume by an average annual rate of 10 percent in the next few years appears to be a very modest target, considering SINOCHEM's impressive track record since 1987.

■ **CITIC** In terms of operational autonomy, political connections at home, and public profile abroad, CITIC is unrivaled among China's transnational corporations. Established in 1979 and accorded the status of a ministry, CITIC has the freedom to raise capital overseas by floating bonds in any foreign currency in world financial markets. Between 1982-92, CITIC raised more than $2 billion through international bond issues. Undoubtedly, some of the proceeds financed CITIC's offshore investment forays. Though the company did not embark on a global expansion path until the mid-1980s, by the end of 1990, CITIC's cumulative investment abroad had reached $1.33 billion.

According to estimates published by *Global Finance* magazine, CITIC's combined offshore assets at the end of 1992 totalled $4.5 billion. This figure amounts to slightly more than half of the group's consolidated holdings of $8.9 billion. CITIC has 65 ventures in more than 15 countries; the largest include the Ka Wah Bank in Hong Kong, Celgar Pulp Mill in Canada, Portland Aluminium Smelter in

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business links between Indonesia and China. 11/90

Europe and CIS

Foreign Engineering and Construction Corp. announced it will build a theme park outside of Barcelona. 7/93

Yingkou Washing Machine Factory agreed to set up a factory in Russia to produce washing machines. 12/92

China International Construction Corp. and the Illinois-China Development Co. agreed to develop shopping centers and hotels in Russia. 10/92

Xinjiang No.1 Radio Factory established a color-TV joint venture in Uzbekistan. 5/92

Ministry of Public Health opened the Medicina Traditionale Chinese joint venture in Rome. 3/91

Hong Kong

China Resources Holdings acquired a 50 percent stake in the Hong Kong Chinese Bank. 7/93

CITIC Pacific bought a 20 percent stake in Chase Manhattan's credit card operations in Hong Kong. 6/93

China National Petrochemical Corp. announced plans to form a joint venture to raise funds on Hong Kong markets to finance expansion of its domestic operations. 1/93

Capital Iron & Steel Corp. bought a 51 percent stake in Tung Wing Steel (Holdings). 11/92

Other

China National Metallurgical Import & Export Corp., Beijing Steel Design and Research Institute and Anshan Ferrous Metal Mining Design Institute agreed to set up a steel joint venture in India with Chinese technology and equipment. 4/93

China National Machinery Import-Export Corp. announced plans to develop a coal mine in Barapukuria, Bangladesh. 1/93

Hainan Global Science and Technology Enterprises agreed to establish a joint venture in Haiphong City to help Vietnam set up its first special economic zone. 8/92

China National Technical Import-Export Corp. agreed to build a soda ash plant in Iran. 5/92

Source: US-China Business Council files. *This list is not intended to be comprehensive and has not been independently verified by* The CBR. *Deals are listed in US dollars, calculated at prevailing international rates.*

Australia, and CITIFOR and CITISTEEL in the United States.

In addition, CITIC Pacific, a Hong Kong subsidiary, has holdings in a myriad of industries in the territory including civil aviation (Cathay Pacific and Dragon Air), shipping (Continental Mariner Investment), trade and investment (Hang Chong Investment), telecommunications (Hong Kong Telecom), and infrastructure construction (Eastern Harbor Crossing). Through aggressive mergers and acquisitions, CITIC Pacific has emerged as a significant mover-and-shaker on the Hong Kong corporate scene. With a market capitalization of over $4 billion, the Hong Kong subsidiary is one of the 20 largest companies listed on the territory's stock exchange. Its 1992 after-tax profit of $135 million would presumably make CITIC Pacific the most important contributor to the group's bottomline.

Recent top-echelon personnel changes at CITIC headquarters in Beijing are unlikely to diminish the firm's political clout. The departure of company founder and former chairman, Rong Yiren, to become vice president of the PRC gives CITIC a powerful advocate within the government to articulate and promote the enterprise's interests. The elevation of Wei Mingyi from company president to chairman also augurs well for CITIC, as Wei has been a close associate of Communist Party General Secretary and PRC President Jiang Zemin since 1982, when both held top positions within the Ministry of Electronics Industry. Newly promoted CITIC president Wang Jun also enjoys extensive political ties, as he is the son of Long March veteran and late PRC Vice President Wang Zhen.

Beijing's latest efforts to tighten its grip on the economy will likely lead Chinese enterprises that have already invested abroad to reinvest their offshore profits in overseas markets.

China's Overseas Investment

$ millions

Year	1985	1986	1987	1988	1989	1990	1991
Annual investment	628	450	645	850	780	830	913

cumulative investment

SOURCE: International Monetary Fund

These connections, coupled with unparalleled autonomy in business operations and a strong balance sheet, should continue to underpin CITIC's expanding transnational activities in the foreseeable future. For the 1990s, the parent holding company in Beijing is reported to have set the ambitious goal of seeing its shares listed and traded on all the world's major stock exchanges.

Problems and prospects

The successes of these three firms have helped the central leadership recognize the need for other Chinese enterprises to seek business opportunities abroad. For example, at the 14th Chinese Communist Party (CCP) Congress last October, CCP General Secretary Jiang Zemin exhorted the government to "encourage enterprises to expand their investments abroad and their transnational operations." Judging from expansion plans announced by CITIC in Australia and BOC in Singapore this past summer, Beijing's official stance does not seem to have been altered by the current austerity program. As long as overseas projects meet MOFTEC's requirements and are proposed by large and reputable enterprises with strong hard-currency earnings, they still seem to have Beijing's go-ahead.

For other Chinese companies, however, the outlook is not so clear. With or without the austerity program, efforts of smaller and less well-known Chinese firms to establish offshore operations that are not merely shells in which to hide funds have long been hampered by shortages of foreign exchange and lack of executives with international management skills. All things being equal, the continuing dearth of hard currency is likely to drive a growing number of small- and medium-sized Chinese enterprises to the developed countries, where mature capital markets can be tapped to raise funds locally. In the near term, however, the companies' lack of solid track records and Beijing's austerity measures will render these entities' offshore fund-raising proposals less attractive in world capital markets, where concerns are rising over the creditworthiness of Chinese companies.

Whatever the hurdles, recent trends indicate that China's outward investment drive will not abate. Beijing's latest efforts

to tighten its grip on the economy will likely lead Chinese enterprises that have already invested abroad to reinvest their offshore profits in overseas markets, where they will have greater autonomy over their own activities and earnings (*see* box). Chinese enterprises that have made unauthorized investments abroad are particularly unlikely to remit their overseas profits to parent companies for fear of government discovery and seizure of these assets—even though Beijing will find it difficult to audit illegal capital transfers due to lax control in the past and the absence of standard accounting procedures in most mainland companies. Recent volatility and the inconvertibility of the *renminbi* will further discourage repatriation of profits from abroad.

Globally, the emergence of regional economic blocs, and with them the anticipation of rising protectionist barriers, will spur more Chinese enterprises to establish a presence in the European Community and North America to ensure continued access to these markets and the advanced technologies of these countries. Regionally, the recent normalization of diplomatic relations between China and Asian countries such as Indonesia and South Korea will encourage Chinese firms to explore investment opportunities in these areas. Southeast Asia's high economic growth, abundant natural resources, and large ethnic Chinese business communities will also attract China's outward-oriented enterprises.

Other likely destinations for China's outward-bound capital include the Russian Far East, which has rich natural resources. In 1991 alone, 66 Chinese enterprises were established in the CIS, bringing to 99 the number of Chinese firms officially operating in that area.

In the years to come, it is highly likely that Beijing's fledgling transnational corporations and their cross-border activities will emerge as competitive players in the global economic arena. The emergence of these potential business rivals and partners will present both challenges and opportunities to other well-established multinational enterprises, especially in Asia. 完

Hong Kong's Charms

Anthony H. Adams

"The moon is rounder in Hong Kong." This Chinese saying pithily sums up why thousands of Chinese State enterprises have been flocking to set up businesses in the territory. Though Hong Kong certainly has not been the only beneficiary of China's tremendous surge in overseas investment during the past two years, it has been the main recipient, for several reasons.

Some of the attraction stems from Hong Kong's strong business climate, as well as the desire of mainland firms to get closer to foreign customers and markets. But other factors accounting for Hong Kong's popularity relate directly to China's internal rules and regulations. Specifically, investing in Hong Kong enables mainland firms to obtain the following benefits:

■ **More control over funds** Since Zhu Rongji's 16-point program was launched in July, State enterprise foreign exchange accounts in China have been frozen or simply taken back by Beijing and strict regulations have been placed on wire transfers abroad. But mainland companies with investments in Hong Kong retain the right to wire funds to their offices in the British colony. From there, funds can be invested in Hong Kong real estate or other sectors, or wired to other offshore accounts. These transactions are not subject to the same scrutiny as those conducted by banks or offices on the mainland.

■ **Perks and *guanxi*** Mainland companies also like to invest in Hong Kong to improve their *guanxi* at home and abroad. Says one State enterprise manager, "[A Hong Kong subsidiary] gives us a lot of face, plus we look a lot more international." In addition, the Hong Kong office can host cadres on "business visits" to the territory, thereby helping cement critical personal relationships. Similarly, Hong Kong offices are often expected to invite and escort top Chinese business, Party, and government officials to Macao for weekend gambling junkets to build company *guanxi*.

State enterprise employees generally bend over backward to get postings in Hong Kong. Aside from taking advantage of the territory's higher living standards, Hong Kong employees also are in better positions to cash in on the territory's business opportunities. Many of these employees have been known to divert funds wired from the parent company and use the cash for their own purposes, such as engaging in real estate speculation.

■ **Investment benefits in China** Once mainland companies have established overseas offices, they can use these offices to invest in mainland joint ventures and obtain tax and other benefits restricted to foreign investors. In Guangdong, these "fake foreign investments" are so common that unless the nationality of the foreign partner is specified on the sign outside the venture, everyone assumes the investor is from Hong Kong. Local businesspeople estimate about 80 percent of these Hong Kong investors are actually Hong Kong subsidiaries of mainland firms. Western or Japanese investors, therefore, are now often referred to as "real foreigners."

Despite the somewhat dubious nature of many Chinese investments in Hong Kong, there are, of course, many legitimate ventures there and elsewhere. From the outback of Australia to the steppes of Siberia, China's economic might is making itself felt. The more far-flung the investment, the more likely it is legitimate; it is solely in Hong Kong that fronts have appeared in any number. Only when China's system of dual currencies is eliminated and its financial and tax systems reformed will such entities become obsolete. For now, Hong Kong's round moon will continue to smile on both sides of the border.

Anthony H. Adams is an account manager and the sole foreign employee in a large, State-run trading company located in one of Guangdong's Special Economic Zones.

Power Plays

■ David Schneider, Jessica Madoc-Jones, and Guo Liming

China's economic growth is contingent on boosting electricity generation

More than 120 million people in 32 Chinese counties live "virtually without power" and brownouts remain common in many cities, according to Ministry of Power Industry (MOPI) officials. Although the power industry grew an average of 10.1 percent per year in the late 1980s and early 1990s, it is not keeping pace with China's double-digit industrial growth rate. By some accounts, chronic power shortages have held back industrial production by 20-40 percent.

Over the next decade, concentrated development of the power sector in China will create numerous opportunities for foreign companies. Though the country's total generating capacity at the end of 1992 was only 165GW, Beijing hopes to have at least 300GW in generating capacity by the year 2000. According to the State Planning Commission (SPC), meeting this target will mean the addition of approximately 15-17GW in new capacity each year between now and 1996, and 17-20GW yearly from 1997-2000. In all, some 17-20 new power plants are to be added each year for the next seven years.

In order to carve a niche for themselves in this sector, foreign suppliers need to understand Beijing's plans for boosting electricity generating capacity and become familiar with the major players in the industry. In particular, decentralization of planning and funding in recent years means that local and provincial authorities will play even greater roles in developing China's power resources in the years to come.

How big is big?

Though China is fourth in the world in terms of total generation capacity, it ranks approximately 80th in kwh per capita. In 1992, the growth rate of China's installed capacity reached 10.7 percent, up from 8.9 percent in 1991. But these impressive gains still lagged behind the country's industrial growth rate, which hit 25 percent last year. Shortages of electricity, in fact, force many ventures in some parts of the country to shut down during certain hours, or even for days at a time.

Clearly, the availability of electricity is a high-priority issue for leaders at the national and local levels alike. While great efforts have been made to enhance energy efficiency (*see* p.42), the government's goals cannot be met without massive additions to China's existing generating capacity. As China currently is adding only 11GW per year to its total installed capacity, meeting the 15-17GW yearly target will not be easy.

According to ministry officials, coal-fired thermal power plants will be the government's highest priority, followed closely by hydroelectric and nuclear stations. Seventy percent of China's electricity is now derived from coal, a situation likely to persist well into the next century.

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Development of coal resources will continue to be concentrated in the northern provinces of Shanxi, Shaanxi, and Gansu, as well as in the Inner Mongolia Autonomous Region. To reduce the strain on the railroad system, which does not have the capacity to move enough coal fast enough, Beijing plans to build a series of large power plants directly at the coal mines. These plants will then sell electricity to coastal provinces via transmission lines fanning out to Guangdong, Jiangsu, Shandong, Tianjin, Beijing, and other points. According to the plan, Shanxi will provide electricity to Jiangsu, Guangdong, and Shandong; Shaanxi and Gansu will run transmission lines to Sichuan; and Guizhou will supply Guangdong, Guangxi, and Hunan.

Power plants built in coastal provinces, meanwhile, will be constructed at or near ports, so that coal can be transported by ship. Large power stations are planned for Zhuhai and Shenzhen in Guangdong, Fuzhou in Fujian, Zhenhai in Zhejiang, Waigaoqiao in Shanghai, and Hangzhou in Jiangsu. In the future, electricity will therefore run both from the inland provinces to the coast and from coastal ports inland, although the port plants will primarily supply the coastal provinces themselves.

This two-pronged approach is the heart of the central government's electricity development strategy. But, added to this scheme and also sanctioned by the central government will be provincial and municipal power stations that manage to collect sufficient financing to gain approval for construction. These projects will be many and varied.

The relative share of State spending devoted to the electric power sector has declined 2 percent or more for each of the past three years.

Who pays?

The key obstacle to the realization of Beijing's development plans is lack of funds, particularly foreign exchange for imported equipment. State investment in capital construction in the electric power industry in 1993 is slated to reach ¥71.2 billion, a 44 percent increase over 1992 and equivalent to nearly a quarter of the national budget for capital construction. Though this figure might sound like a significant increase, the relative share of State spending devoted to the electric power sector has declined 2 percent or more for each of the past three years. According to official estimates, actual allocation of both central and local funds has lagged 10 percent behind the planned allocations during the first six months of 1993.

This decline likely stems from a number of factors. The main reason is rooted in Beijing's decentralization policy. Control of the industry is rapidly devolving to the provinces and cities, but local governments have not been able to generate enough investment funds to keep up with China's fast-paced industrial growth. Moreover, the central government's investment targets may be unattainable, given Beijing's budget deficit and the claims of other equally important infrastructure industries on State investment. Another contributing factor is the general credit contraction now underway, which seems to be shrinking the amount of

China's Zooming Electric Power Sector

Installed Capacity (GW): 180, 160, 140, 120, 100, 80, 60, 40, 20

Electricity Generated (TWh): 800, 700, 600, 500, 400, 300, 200, 100, 0

Installed Capacity

Electricity Generated

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Installed Capacity (GW)	65.8	69.1	72.4	76.4	80.1	87.0	93.8	102.9	115.5	126.6	137.9	151.5	163.7
Electricity Generated (TWh)	300.6	309.3	327.7	351.4	377.0	410.7	499.6	497.3	545.1	584.7	621.3	677.5	747.0

SOURCE: Ministry of Power Industry, China Council for the Promotion of International Trade

funds available to all economic sectors.

One measure the government has taken to enhance the ability of power plants to be financially self-sufficient is to reform the electricity tariff structure. Electricity prices, which are under the management of MOPI, were kept uniformly low in the past to provide cheap energy to the industrial sector. In 1984, however, the central government imposed a ¥.02/kwh surcharge on electricity purchases for payment into a dedicated electric power construction fund.

With the advent of the "two-tier" pricing system in the late 1980s, central authorities began to distribute some electricity at the previously low price of ¥.06/kwh, with the rest available for purchase on the free market. The regional power bureaus also began to take on a greater role in determining electricity prices. Now, the provincial power bureau typically proposes an electricity price to the provincial government; if provincial authorities approve, the power bureau then sells electricity at that price to cities and counties within its jurisdiction. New plants are allowed to charge higher tariff rates than existing plants. Despite these moves toward decentralization, however, all decisions and policies must still be negotiated with MOPI, which issues the final approval.

Who's in charge?

In the past, the task of adding new generating capacity was tackled within the overall framework of China's planned economy, with electricity projects outlined in the central list of projects drawn up each year by the SPC. The "plan" at that time meant a rigid and comprehensive catalog of projects selected by central authorities to receive central government financing and foreign exchange allocations.

In recent years, under the impetus of market reforms the central plan has evolved into an industrial policy framework, rather than a binding document. This means that a proposed power plant must be technically feasible, able to fit into the power grid structure, and financially viable in order to gain approval by the SPC and thus be inserted into the State economic plan. In their new role as industrial policymakers, the SPC and MOPI now guide the direction of power plant development by promulgating new policies concerning project financing, legal matters such as the allowable percentage of foreign ownership, technical and environmental standards, and the geographic distribution of government investment.

As decentralization has progressed, much of the financing burden has shifted from the central government to the provinces and cities, which are now expected to find their own sources of financing for their power plants. They can look to the central government only in rare or exceptional cases; even in the case of officially sanctioned "key" projects, Beijing expects much if not all of the financing to come from local governments and foreign sources. In practice, this means that if a province can procure the necessary financing, including foreign exchange, it can build its own power plant, with minimal involvement on the part of the central government (*see* p.36).

> Projects that service only local areas and have local financial resources attract relatively little attention from the central government.

The power players

Organizationally, China's power sector resembles a three-tiered pyramid, with the ministry and four ministry-level corporations on top. The second tier comprises regional power organizations, while the base of the system incorporates the many provincial and municipal-level power bureaus and power development corporations.

Interaction between the three levels of the pyramid is growing increasingly complicated; some projects have heavy central-level involvement, while others are implemented almost entirely at the local level. Many projects are undertaken jointly by several organizations at all three levels. As a general rule, projects which service only local areas and have local financial resources attract relatively little attention from the central government. If a project is particularly large or entails running transmission lines across provincial borders, it will be subject to greater central government scrutiny and control. The various players and their responsibilities are as follows:

■ Ministry of Power Industry

Despite the significant degree of decentralization taking place in the sector, the structure of China's electric power industry maintains some features of a distinct hierarchy. MOPI, which was re-established earlier this year when the National People's Congress split the former Ministry of Energy into separate ministries or corporations responsible for electricity, water, petroleum, and coal, reports directly to the State Council. The ministry is responsible for formulating with the SPC unified energy industry planning and then overseeing the implementation of such plans; supervising the implementation of related national policies, decrees and plans; promulgating relevant rules and regulations; providing services to energy enterprises; and formulating development strategies and policies to guide the power industry in areas such as investment, technical standards, energy production, and consumption.

MOPI's primary task is to implement the country's electric power development program. The ministry oversees the national electricity tariff system, controls the overall direction of the market, and delegates responsibility for power development and grid management to the various regional and provincial power bureaus.

■ State Energy Investment Corp.

The central government's main power industry investment bank is the State Energy Investment Corp. (SEIC), which was established in 1988 to serve as a conduit for central government allocations to the power industry. In its capacity as the key source of State financing, SEIC is likely to act with increasing frequency as an investor and partner with both domestic and foreign companies in build-operate-transfer (BOT) and build-own-operate (BOO) power plants.

From 1988-92, SEIC invested a total of ¥91.8 billion (about $16 billion) in power

plant construction. This investment has resulted in a 28GW increase in China's total installed capacity; over 22GW of this was in thermal power. In 1991, SEIC's ¥6.2 billion (around $1 billion) investment in the thermal power industry accounted for 46.7 percent of all central government investment in the power industry. SEIC currently has investments in 54 thermal power projects in operation or under construction, with a combined capacity of 24.3GW.

In 1993, the central government will provide ¥21.7 billion of SEIC's ¥37.9 billion earmarked for electric power projects. The balance will come from local governments (39 percent), domestic bank loans (29.1 percent), construction bonds (17 percent), foreign loans (8.4 percent), national treasury funds (5.5 percent), and funds from other enterprises involved in electric power construction. According to bank officials, SEIC is considering issuing bonds on foreign capital markets, possibly for power projects. The corporation has also been involved in joint-venture negotiations with foreign independent power operators.

■ China Huaneng Group (CHNG)

A national-level power plant development corporation, CHNG has strong ties to Premier Li Peng and operates directly under the auspices of the State Council. The group, an umbrella company similar in many ways to a holding corporation, includes 11 important players in the electric power industry: Huaneng International Power Development Corp., Huaneng Coal Corp., Huaneng Power Generation Corp., Huaneng Raw Material Corp., China Huaneng Finance Corp., China Huaneng Technology Development Corp., Huaneng Comprehensive Utilization Development Corp., Huaneng Real Estate Development Corp., Huaneng Industry Development and Service Corp., China Huaneng International Trade-Economics Corp., and Huaneng South Development Corp. The group also has branch companies in Guangdong, Shandong, Shanghai, Sichuan, and Zhejiang, as well as offices in Hong Kong and Paris. Over the past decade, Huaneng has built 30 power plants which now generate a combined 12.5GW of electricity.

CHNG was created in the mid-1980s to shift the country's chief source of electric power from oil to coal. A special government fund managed by CHNG was established to provide the domestic and foreign currency necessary to achieve this task. This fund has since been depleted, however, and CHNG is now working on an independent profit and loss basis. All of the power plants the group builds in the future will have to be financially and commercially viable.

■ Huaneng International Power Development Corp.

Huaneng International Power Development Corp. (HIPDC), the most important of the CHNG group of companies, is

China's Regional and Provincial Electricity Networks

Power Network	Installed Capacity (MW)*	Total Electricity Generated (TWh)*
East China	23,757.3	118.8
Central China	22,003.5	102.0
North China	18,835.8	97.2
Northeast	23,012.5	103.0
Northwest	9,405.6	45.8
Provincial Grid		
Fujian	3,238.0	13.6
Guangdong	8,936.9	37.9
Guangxi	2,746.5	12.1
Guizhou	2,198.3	10.3
Hainan	626.0	1.4
Shandong	9,064.0	49.4
Sichuan	7,005.9	31.8
Tibet Autonomous Region	166.7	0.4
Xinjiang Autonomous Region	2,141.9	7.8
Yunnan	2,935.5	11.7

*1991
SOURCE: Ministry of Power Industry

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Firing up the Fifth Dragon

Nancy Murphy and Greg Miao

Guangdong Province's voracious appetite for electricity puts tremendous pressure on officials to develop new power plants and supply links from other provinces. Currently, industrial and residential users throughout the province experience frequent electricity shortages, especially during peak hours. As a result, the Guangdong Electricity Bureau (GEB) must ration the supply of electricity to cities within the province, and is actively exploring new ways to boost electricity supplies.

Allocating the power supply

The GEB is the provincial government institution in charge of coordinating the generation and distribution of electricity throughout the province. Guangdong is required by the central government to use its own electricity generating plants to meet the province's power needs. If necessary, it must make up the shortfall by purchasing electricity from nearby areas with excess capacity, such as Hong Kong.

The GEB sets the price for the electricity sold from its power plants and allows local utilities to set the price for electricity produced at their own power plants. Different endusers throughout the province pay different rates, depending on time of usage, type of customer, and other variables. Despite their ability to set prices, both provincial and local electricity planners must still follow central-level guidelines on electricity prices.

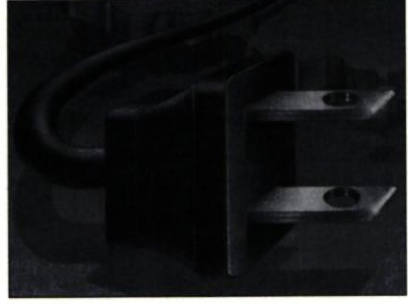
In the mid-1980s, a large portion of Guangdong's total installed capacity consisted of hydropower facilities, leaving provincial electricity supplies particularly vulnerable in periods of low rainfall. To create a more stable and reliable supply of electricity, the GEB in 1985 began requiring each municipal electricity bureau to contribute to a provincial fund to finance the construction of new 200MW coal- and oil-fired power plants. Foreign investors supplied additional funds and equipment for these plants. Since its inception, the provincial fund has financed a number of power plants, but the pool of funds is insufficient to build all the plants needed to meet Guangdong's great electricity demand.

In the last few years, some municipalities in Guangdong have opted to bankroll local power projects rather than contribute to the provincial electricity fund, even though such a move may limit their access to electricity generated by provincially funded plants. The power bureau allocates electricity to each city according to the municipality's basic needs; beyond that, the amount of electricity supplied from the provincial grid is determined by the city's cumulative contribution to the provincial power fund. Thus, a municipality that does not contribute might receive only enough electricity to meet its "basic needs."

Basic electricity needs are determined city by city. Within a given location, businesspeople seeking to establish commercial and manufacturing enterprises must apply to the municipal electricity bureau to request the supply of electricity. They must apply again if they require additional electricity to increase operations or expand the facility. The municipal electricity bureau uses the applications to calculate the city's basic needs and provides an estimate of its monthly requirements to the power suppliers.

Planning ahead

With provincial energy officials already struggling to meet daily electricity demand, planning for future needs has taken on a high priority. Though little data on Guangdong's anticipated electricity needs has been published, supply is highly unlikely to catch up with demand for many years. Provincial electricity authorities thus project substantial increases in generating capacity well into the next century. Generating capacity is projected to increase an average of 15.3 percent per year through 1995, 14.5 percent during



1995-2000, and 12.3 percent during 2000-2010. If these goals are reached, the province would increase its generating capacity 13-fold in 20 years.

Some of the new capacity is slated to come from nuclear power, with the Daya Bay nuclear plant scheduled to begin operations in 1994. Nuclear power, according to provincial energy officials, will account for 4.1 percent of the power plant mix in 1995, and as much as 32 percent in 2010.

Guangdong is also looking at building hydroelectric power plants in neighboring provinces. A hydro facility underway in Yunnan Province, for example, should come on line by 1995, sending 100 percent of its generated electricity to Guangdong across 500 kv transmission lines. Guangdong Province is funding the entire project, including the cost of building the transmission lines.

Coal-fired thermal plants, however, should remain the core of the province's electricity supply. In the past, locally funded power plants tended to be oil-fired and fairly small. In the future, Guangdong is counting on foreign investors to participate in the development of larger 300-600MW facilities. Already, Hong Kong investors looking to boost their standing in the province and ensure stable electricity supplies for their investment projects are heeding Guangdong's call.

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tant of the CHNG group of companies, is an independent, national-level corporation in its own right. HIPDC is the leading power developer in China today, surpassing its parent corporation in terms of involvement with internationally developed and financed power plants. One of China's most experienced and sophisticated companies, HIPDC often works with foreign firms and uses foreign capital to develop projects. Established in 1988, the company is a joint venture among CHNG, People's Construction Bank of China, China Water Resources Electric Co. (under MOPI), China Resources of Hong Kong, and China Construction Investment Corp. of Hong Kong (a subsidiary of the Bank of China). Eighty percent of HIPDC's business involves the importation, engineering, and construction of turnkey electric power plants. With an ambitious eight-project investment program currently underway, HIPDC will be an important partner for foreign suppliers and investors.

■ **Sunburst Energy Development, Inc.**

Sunburst, a subsidiary of China International Trust and Investment Corp. (CITIC), is another official, central-level Chinese power developer. A newcomer to the power industry, it has built one thermal power plant, the Ligang facility in Jiangsu Province. Sunburst has significant potential to finance future projects, as it can rely on CITIC's strong financial base and international reputation to tap international capital markets for investment funds.

■ **Regional power organizations**

At the second level are five regional electric power organizations and four independent power transmission networks. These organizations, all of which are subject to MOPI's oversight, both manage regional grids and develop power plants. While the Chinese government has long-range plans to implement a unified grid system for the whole country, this goal is unlikely to be achieved in the next decade, leaving each regional organization with considerable responsibility to build its own grid within the parameters of the official development strategy.

China's Electric Power Generating Facilities

cal investment in the power industry, China's formerly administrative power bureaus have been allowed to establish power development companies within their existing organizations. The result of this reform is a confusing proliferation of companies whose functions seem to coincide closely with the responsibilities of old power bureaus; the rules under which these entities operate are not yet clear. But the thrust behind the reform is clear enough: the government wants these organizations to boost regional investment in self-sufficient power plants, a task the old administrative organs were ill suited to undertake.

These regional power bureaus and their development companies are: Northeast China Power Bureau and Northeast China Power Group Co.; North China Power Bureau and North China Power Group Co.; Northwest China Power Bureau and Northwest China Power Group Co.; Central China Power Bureau and Central China Power Group Co.; and East China Power Bureau and East China Power Group Co. Shandong, Sichuan, and Hainan have their own independent provincial power bureaus and associated power development companies. South China's power system is run by South China Electric Power Co., a joint venture among power companies in Guangdong, Guangxi, Yunnan, and Guizhou.

These entities directly control and manage the power-generating activities of their subordinate power stations and oversee the transmission of electricity within their grids. Organizationally, these entities are similar to large utility companies in the United States, as they can build power stations, generate power, and sell electricity to industrial, agricultural, and residential endusers.

■ **Provincial and local power authorities**

At the base of the system are the many provincial and municipal government power bureaus and power development companies. Each province has its own power bureau which administers the local electricity system, formulates power station development plans, and implements specific construction projects.

Powering ahead

Because China's electric power industry has been unable to meet the demand for electricity by relying solely on central government investment in power-plant construction, a joint investment system which includes the central government, local governments, and large enterprises has evolved. Power plants financed by the central government are primarily intended to meet the power demands of key State-owned enterprises, while power plants financed by provincial and municipal authorities are intended to satisfy local economic development needs. Large private enterprises are also permitted to invest in the construction of electric power plants to serve the needs of their own enterprises.

As a result of decentralization, local government and private enterprises are now encouraged to consider the availability of electric power before proceeding to develop power-consuming enterprises. In theory, this policy will result in local governments and private enterprises allocating a portion of their investment capital in electric power industry construction in order to maintain a balance between power-supplying and power-consuming enterprises.

As a key infrastructure industry, the development of the power sector will continue to be one of the Chinese government's top priorities. Even if the ambitious goals set forth by MOPI and the SPC are never actually met, China's power industry will remain among the world's largest and fastest growing. Decentralization efforts will continue to take root over the next several years, as the government moves to apply more market-oriented principles to the development of China's infrastructure industries. The main questions are whether legal and market reforms will be implemented fast enough to attract badly needed foreign technology and capital, and whether the economy will be able to generate enough domestic capital to make up for a chronic shortage of investment funds. 完

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Power Funding

■ Robin J. Gibbons

Finding the purse to pay for China's new power plants will take some innovation

■ Robin J. Gibbons is an associate director in the Structured Finance Asia division at Barclays Bank PLC in Hong Kong. Barclays has been involved in numerous power station financings in China over the past seven years.

With energy officials predicting the addition of thousands of megawatts of new electricity generating capacity each year for at least the next decade, Beijing is clearly on a power trip. For foreign suppliers and financiers, these plans add up to huge opportunities, provided pricing details can be worked out. Already, many potential foreign investors are busy sorting out the financing picture. Yet, while the availability of foreign financing is unlikely to be affected by the austerity program introduced during the summer, the current credit squeeze will certainly affect the availability of *renminbi* (RMB) funding for power and other infrastructure projects in China.

A new role for commercial banks?

To date, the majority of power stations in China are domestically operated and utilize Chinese technology and equipment. Perhaps as much as 90 percent of the power plants in operation were built with domestic funding, which came primarily from China's specialized banks (the Bank of China, the Industrial and Commercial Bank of China, and the People's Construction Bank of China) or local international trust and investment corporations (ITICs).

Power stations built with direct foreign investment are still relatively rare. For the most part, despite enormous interest from foreign companies, few matches have been made between local and foreign partners for power projects. Sales of foreign technology to Chinese power plants have been more common, with many sales financed through export credits. Some power plant equipment sales have also been financed through concessional (lower than commercial rate) loans from developed countries. But with new guidelines on concessionary lending to China and other countries now in place, there likely will be less concessionary financing available for power plants and other projects that can attract commercial loans (*see The CBR,* May-June 1993, p.36).

For the most part, recent foreign bank activity in the power sector in China has consisted of two types of loans. In one case, the Chinese bank or ITIC is the borrower, but in turn lends the funds to the Chinese power station company. In the second, the foreign bank lends the money directly to the power company, provided an approved Chinese financial institution acts as guarantor.

Currently, most loans are of the latter type, with the Chinese bank or ITIC acting as guarantor. In Guangdong Province in particular, a number of smaller power stations have been financed in this manner this year, with GITIC, the Guangdong Development Bank, and local branches of the Bank of China acting as guarantors for loans in the $25-30 million range. Foreign banks have generally proven willing to accept these local branch guarantees. For-

eign export credit agencies, in contrast, usually insist on a head office guarantee.

Smoothing the investment path

Foreign companies seeking to obtain financing for direct investments in China's power sector should enlist a financial adviser early on and detail the structure of the desired financial package in the feasibility study. Once the financial structure has been negotiated and approved, the Chinese are unlikely to be willing to revisit the question of funding, especially if they may be asked to provide greater support than that envisaged in the joint-venture agreement.

Like any foreign venture, a foreign-financed power project must obtain approvals at the local and/or national levels (*see* p.36). These approvals do not guarantee availability of foreign currency, and certainly do not guarantee commercial viability of the project, but foreign lenders generally are comforted by the knowledge that a project carries the government's stamp of approval. Therefore, in addition to the formal approvals, the foreign investor usually seeks a letter from the provincial or municipal government indicating general support for the project.

Prospective foreign lenders also play close attention to the project's local partner. In general, lenders prefer a party who has a need for the electricity to be generated and who can provide a satisfactory electricity offtake agreement. Although China appears prepared to allow 100 percent foreign ownership of power stations, lack of local power bureau involvement in a project may make structuring the financing difficult, as the lender might fear an unengaged power bureau would have little incentive to shoulder some of the project's risks. Specifically, these risks include:

■ **Market risk** In practice, an offtake agreement specifying minimum volume and price will almost certainly be required by lenders and investors to remove market risk. As offtake agreements are generally required in markets where demand is uncertain, their use in China, a country with serious electricity shortages, is somewhat anomalous. But offtake agreements will probably be required by lenders to Chinese power projects as long as it remains unclear whether China's electricity demand will stay strong once prices are fully marketized. The offtake agreement also serves as the vehicle by which the offtaker obtains credit support.

■ **Price risk** Although electricity prices in China are being deregulated gradually, there is no common tariff across the whole country. Moreover, because a national grid that connects power stations, substations, and endusers does not exist, instituting a common electricity price would be difficult. Given these considerations, foreign investors should take care in choosing the location of power projects to ensure local electricity prices will be high enough to generate a sufficient return on investment.

> Lack of local power bureau involvement in a project may make structuring the financing difficult.

For practical purposes, price risk is closely linked to market risk. Foreign investors therefore will likely seek an all-embracing offtake agreement that transfers these risks to someone better able to shoulder them, such as the local power bureau. Familiar with local market conditions and likely to control a number of other power stations, local power bureaus conceivably should be able to divert revenue from other sources should the foreign-invested power station fall short of its projected earnings.

■ **Currency risk**

Though it might seem logical to fund a Chinese power project in RMB, RMB loans are currently in short supply and a RMB-financed project would still need foreign exchange to pay for imported technology. Besides, foreign investors and lenders in power projects are almost exclusively interested in raising foreign currency. Thus, the availability of foreign exchange over the life of the project, which, from the foreign investor's point of view may be 25 years or more, is an important consideration.

Lenders and, presumably, investors in a power project generally are not prepared to take on the risk of RMB convertibility. In practice, however, many foreign lenders and investors will accept a foreign currency guarantee from an "acceptable" Chinese bank or ITIC. The willingness of foreign financiers to accept these guarantees indicates that they are less concerned with long-term foreign exchange availability in China than with who will accept the risk of shortages.

Therefore, foreign lenders will be adamant that the currency risk be assumed by a party with clear access to foreign exchange. In practice, when the banks or ITICs assume the risk, they themselves receive a guarantee from the relevant power bureau or government department. Such an arrangement is generally sufficient for foreign lenders, based on the overall creditworthiness of the Chinese guarantor.

Investors must also be concerned with the possible depreciation of the RMB against the dollar, since electricity sales are normally conducted in local currency. This risk could be addressed by designating at least a portion of the offtake in hard currency, along with a guarantee from the Chinese bank or ITIC that this obligation will be met. Because it is difficult to determine whether a provincial power bureau can meet its foreign exchange obligations, foreign lenders will probably insist on obtaining guarantees for hard currency availability for the near future.

■ **Operating risks**

As in any foreign-invested venture, power projects confront numerous operating risks. The reliability of domestically manufactured equipment could be of concern to foreign lenders, though power projects financed or operated by foreigners are likely to involve foreign-manufactured equipment. If, however, the operator is also the offtaker, the lender may seek to get this party to assume most of the operating risks as well; in this manner, the operator's commitment to offtake is not waived by his incompetence as an operator.

■ **Infrastructure risks**

In addition to these concerns, foreign investors in the electric power sector should be aware of a number of factors likely to remain outside of their immediate control. Road, rail, or water transportation must be adequate to ensure

steady supply of coal, for example. On the output end, the plant must have adequate connections to the local grid to distribute the produced electricity. If the local power bureau is the offtaker, it would probably assume this risk, as the bureau is usually responsible for providing the grid connection. Infrastructure risks, similarly, may also be structured to be the responsibility of the power bureau; if coal is not available for some reason, the offtaker would still be responsible for making a shortfall payment. Regardless of who assumes these risks, foreign investors must scrutinize the practicality of the proposed transport and grid arrangements.

New funding options

If the parties to a proposed investment can satisfy financial institutions that the above-mentioned risks have been dealt with adequately, the project will likely have little trouble securing funding. Limited recourse financing, though barely tested in China to date, could become the structure of choice for large projects. This financial arrangement typically limits recourse to the investors or joint-venture partners, with repayment to be made out of the project's revenues. Notable exam-

Money for Power

Peter F. Fitzgerald

While no one disputes the enormity of China's demand for power generation projects, the question remains: given the risks, where will the financing come from? In the short- to medium term, it is unlikely that many large private-sector power projects in China will be able to attract significant financing without assistance from multilateral and bilateral sources. With the exception of the World Bank and the Asian Development Bank (ADB), however, most of these agencies have little experience financing power projects in developing countries. Consequently, the inexperienced institutions will proceed cautiously, probably financing smaller projects first.

The Asian Development Bank will undoubtedly lead the way in China, as it has in the Philippines. There, the ADB has co-financed private-sector power projects with the International Finance Corp. (IFC, the private-sector lending arm of the World Bank Group), the Overseas Private Investment Corp. (OPIC, the US government investment finance agency), and the US Export-Import Bank (Eximbank, the US government export-credit agency). In many of these transactions, the ADB has taken the lead in working with the project sponsors to develop an acceptable financing structure and to attract co-financing from bilateral sources. The ADB will likely be the catalyst in China as well, as the institution's own resources clearly will be insufficient to meet the expected financing demands of China's large-scale infrastructure projects over the next decade.

The World Bank's role

The World Bank Group will also play a vital role in providing and mobilizing finance for China's private-sector power projects. The IFC signaled its intention to become more active in this sector when it created an Infrastructure Department with a Power Division in July 1992. The resources the IFC can bring to the financing of these projects, however, remain limited. The institution generally will not finance more than 25 percent of total project costs and rarely lends more than $100 million to any one project (*see The CBR*, May-June 1993, p.27). Although the IFC is able to mobilize additional capital through its "B Loan" program (pursuant to which commercial banks purchase participations in IFC loans and obtain a certain degree of political risk protection by lending under the IFC umbrella), the IFC probably could not mobilize the vast amount of capital required by large-scale power projects in China, some of which may require financing in excess of $1 billion.

As the IFC's resources are too limited at present to meet the enormous new private-sector demand of developing countries, the International Bank for Reconstruction and Development (IBRD, the primary agency of the World Bank Group) is beginning to explore ways to mobilize capital for private-sector infrastructure projects. The IBRD's Co-Financing and Advisory Services (CFS) group will be the critical player in this regard. CFS assists the regional IBRD departments in the coordination of official and private-sector co-financing and advises the regional departments on privatization and private-sector development issues. It has the resources and capability to play the critical intermediary role of determining what it will take to mobilize capital for important private-sector infrastructure projects and then delivering the needed support. One of CFS's most important functions in this vein is to manage the IBRD's Expanded Co-Financing Operation (ECO) program, which was established in 1989.

Under the ECO program, the IBRD can provide commercial bank lenders guarantees—covering 100 percent of the exposure—against political risks. The scope of the risks guaranteed can be negotiated with CFS, so that risk coverage, particularly in the area of government obligations, can be more extensive than that traditionally provided by investment insurance agencies such as OPIC or the World Bank Group's Multilateral Investment Guarantee Agency (MIGA). The ECO program can also guarantee loans in excess of the amounts typically available from MIGA or OPIC, which have $50 million and $100 million ceilings, respectively.

The Hub River Power Project in Pakistan is the most visible example of how an ECO guarantee can serve as the linchpin of the financing package for a large-scale private-sector power project. In that $1.8 billion project financing, the IBRD agreed to guarantee $240 million in commercial bank loans against debt service defaults should the government of Pakistan fail to meet its obligations under the implementation agreement with the project company. The ECO guarantee therefore provided the commercial bank lenders protection against a variety of political risks, including the failure of the government to make agreed payments, provide foreign exchange, grant necessary regulatory approvals, and ensure the performance of certain participants in the project. Given the enormous capital re-

ples of this type of financing in China are the Shajiao B and C power plants in Guangdong Province.

Limited recourse financing will likely be attractive to many foreign investors in the power sector, as most power projects involve considerable sums of money and investors generally are unwilling to put the whole of their investment on the balance sheet. Ideally, the foreign partner will seek to restrict his financial commitment to his equity contribution. In practice, however, he likely will be asked to provide at least an undertaking to infuse more cash in case of cost overruns, and possibly to provide a guarantee of debt funding until the project is completed.

The foundation for successful limited recourse financing rests on getting the basic joint-venture agreement right. Life would be much easier for lawyers and bankers if foreign sponsors would provide 100 percent funding or guarantees, but few foreign companies will likely accept such an obligation. For projects in which the foreign share is less than $50 million, the additional time and cost required to set up a limited recourse financing package may not be worthwhile; documenting the risks in a

quirements and the risks involved, independent power producers (IPPs) planning to build, own, and operate power projects in China would be well advised to learn from the Hub River Power Project arrangement.

At present, the IBRD's ECO program may be the only way IPPs can mobilize the enormous amount of capital required for some large-scale projects. Nothing comes free, however; IBRD participation requires a counter-guarantee from the host country government and strict compliance by the IPP to the IBRD's international competitive bidding rules, unless the project is deemed by CFS to be too small to benefit from international competitive bidding.

Bilateral agencies can also help out

In addition to the multilateral agencies, bilateral export-credit agencies can also provide financing for IPPs, subject to export-finance guidelines determined by the Organization for Economic Cooperation and Development (OECD). Eximbank is quite active in China, providing a record $474.4 million in financing for US exports to China last year. Increasingly, export-credit agencies, including Eximbank, are willing to provide limited-recourse project financing in lieu of their traditional lending against host-county government guarantees.

A good example of how export-credit agencies can provide project financing in cooperation with multilateral and bilateral development finance agencies is the financing of Hopewell Holding's Pagbilao project in the Philippines. In that project, Eximbank and the Export-Import Bank of Japan (JEXIM) provided $535 million of the $933 million project costs. The IFC acted as financial advisor and provided a financing package comprised of a $60 million A loan, an $18 million B loan, and $10 million in equity investment. Other participants in the transaction included the ADB and the Commonwealth Development Corp. of the United Kingdom.

Bilateral investment finance agencies such as OPIC, the leading US provider of lender's coverage, can also provide financing for power projects. US legislation imposed after Tiananmen prohibits OPIC from assisting projects in China, however. In any case, such agencies are likely to be able to give only limited assistance, rarely providing more than $50 million to any one project.

Reducing risk can increase financing options

In many cases, political risk insurance may be needed to secure funding from commercial banks. Multilateral and bilateral investment insurers can provide coverage to commercial bank lenders against the risks of inconvertibility of currency, expropriation, and political violence, though most have maximum coverage ceilings too low to meet the demands of many infrastructure projects.

Accordingly, the ECO program would have to be utilized in conjunction with, or in place of, MIGA coverage for the larger projects. Although OPIC is prohibited from assisting projects in China, MITI of Japan and the ECGD of the United Kingdom provide political risk coverage and can co-insure a syndicate of commercial banks (including those from the United States). In 1989, for instance, OPIC, MITI, and ECGD mobilized significant financing for a $420 million fertilizer project in Bangladesh by co-insuring $100 million of commercial bank loans to the project. Eximbank also provides political risk coverage to commercial bank lenders to the extent that the loan proceeds are used to purchase US equipment.

In order for foreign IPPs to realize the many opportunities that await them in China, multilateral and bilateral agencies must assume new roles as providers of infrastructure finance. For companies seeking to develop China's infrastructure, the ECO program may be the key to bridging the gap between the demand for finance and the available supply.

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Further information about the CFS and the ECO programs can be obtained from:

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multi-bank loan agreement would obviously involve considerable time and legal fees. Banks would also require greater remuneration in the form of fees and interest payments for setting up such a financing structure than they would if they lent directly to the partners against their corporate credit.

If the project is large enough to warrant limited recourse financing, the Chinese parties usually demand that fundraising and risk sharing be divided according to equity stakes. In China, the fundraising tends to be split into two discrete components—RMB and foreign exchange—with the Chinese partner bearing sole responsibility for raising the RMB share. As the Chinese partner is usually content to seek funding on a full recourse basis (they are unlikely to have the same balance-sheet or risk constraints as the foreign partner), the joint venture will have to convince a Chinese bank or ITIC to assume obligations such as the guarantee of offtake obligations.

If the foreign partner asks the Chinese partner to provide guarantees to support a limited recourse financing—such as guarantees for coal supply, offtake, completion of supporting infrastructure, or availability of foreign exchange—the Chinese partner may justifiably point out that he is being asked to take more than a proportionate share of the risks. There is no easy solution to this dilemma, other than to be aware of the sensitivities of the other parties (*see* p.38).

If the foreign investors are reluctant to provide 100 percent financing themselves, or if the amount required is considerable, syndicated foreign financing will be required. Transactions deemed attractive have had little trouble raising funds thus far. The Shajiao C power plant, for example, raised $750 million from a consortium of banks. As US banks have not been significant lenders in the syndicated loan market for some time, European, Japanese, and other Asian banks will likely provide most of the loans.

Lenders will be attracted to deals in thriving provinces, such as Guangdong, over proposed investments in more remote regions.

A useful source of further funding may be the Chinese banks themselves, which are likely to begin participating in limited recourse structures over the next few years, particularly as China becomes increasingly familiar with Western banking practices. China Development Finance Co. (Hong Kong) Ltd., the Bank of China's merchant bank subsidiary, was involved in arranging the Shajiao C transaction. The desire of Chinese banks to shift to a more commercial orientation and adopt Western financing techniques is likely to accelerate the development of limited recourse financing in China.

A keen eye

In the near term, each power plant financing arrangement will no doubt be scrutinized closely by foreign companies and banks alike, as well as by electric power authorities in China. Foreign lenders will certainly be willing to finance properly structured power plants in China, provided they are assured that electricity demand will support commercial pricing levels.

In practice, foreign banks will adopt essentially the same criteria as potential foreign investors to assess the viability of each project. Lenders will be attracted to deals that involve a quality foreign sponsor and a reliable Chinese partner, and deals in thriving provinces, such as Guangdong, will be preferred over proposed investments in more remote regions. Though foreign bankers are unlikely to bankroll 100 percent of a project's costs, the exact debt equity ratio and repayment profile of each power project will depend heavily on the ability of the completed power facility to generate hard cash. 完

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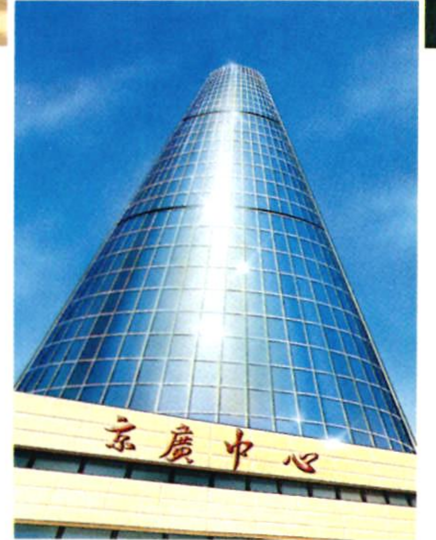

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On Your Mark...

■ David Schneider, Jessica Madoc-Jones, and Guo Liming

Competition among foreign companies for a piece of China's power pie is intense and growing

■ David Schneider is a commercial officer at the US embassy in Beijing. Jessica Madoc-Jones was an intern in the embassy's commercial section from May-September 1993. Guo Liming, formerly a commercial assistant at the embassy, works for a US power company.

China's plan to add at least 15,000MW of new capacity each year until 1995 makes its electric power sector the fastest growing in the world. As the country's extraordinary demand for power cannot be fulfilled by its own manufacturers or financiers, Chinese endusers are actively seeking foreign technology, equipment, and investment. Opportunities for foreign companies, both suppliers and investors, abound.

Imports and exports

According to Chinese government estimates, domestic firms now meet only 70 percent of China's current demand for power generation equipment. To meet planned growth targets, China will therefore need to import a minimum of 3GW of new power generation capacity per year through the late 1990s. Annual imports could even exceed 4.5GW through 1995 and increase further in the latter half of the decade. Companies based in the United States, Japan, France, Switzerland, the United Kingdom, Italy, Russia, Canada, and Germany have already made significant sales, and will be looking for more.

By Chinese standards, the thermal power equipment market is remarkably open. According to officials at the Ministry of Power Industry (MOPI), basically no special licenses are needed to import foreign power equipment. The only obstacle blocking free market access is the assessment of duties and taxes by Chinese customs and tax authorities.

Import duties on thermal power generation equipment range from 6-30 percent. An import tax (known as *suilu*) of 14 percent is assessed if import prices are lower than domestic prices for comparable items. There is also the 5 percent Industry and Commerce Combined Tax levied by the Tax Bureau. However, with Chinese demand for imports so high, these duties and taxes are more of a nuisance than a serious barrier to entry.

Best bets

The most promising markets for foreign exporters are in steam and gas turbine generators, boilers, and control equipment (*see* list). China-based producers are the chief source of competition in these markets; foreign companies must judge for themselves which projects will be locked up by Chinese and joint-venture manufacturers and which will be open to foreign imports. The general shortfall in Chinese production of power equipment, however, suggests that there is plenty of room for foreign suppliers. Nevertheless, it is important to know who the important players in the Chinese market are, as foreign companies may find it necessary either to cooperate with or compete against some of them.

In the boiler and generator market, the largest domestic production facilities—

INTERVIEW

Ministering to China's Power Needs

Primary responsibility for implementing China's electric power development plans rests with Electric Power Industry Minister Shi Dazhen. Shi, an engineer by training, discussed his ministry's goals and hopes for foreign investment with CBR Editor Pamela Baldinger during his September visit to Washington.

CBR: *What is the electricity price in China and how is it determined?*

Shi: There is no one price; prices vary according to region and use. In some cases the price is determined by the market, in some cases it is fixed. We intend to come up with new electricity tariffs within two years; all coal prices will be market-driven by next year. As far as determining the electricity tariff a foreign-invested power plant may charge, we examine four components when determining the rate: debt payments (principal and interest), operating costs, taxes, and a reasonable profit.

CBR: *What is a "reasonable" profit?*

Shi: Again, this depends on the project. There is not a single rate of return for the whole country.

CBR: *Then how is the rate determined?*

Shi: By how much value 1 kwh of electricity can create. In areas where it creates more value, such as Shanghai, the internal rate of return will be higher than in lesser developed areas. We use a 15 percent return as the average.

CBR: *In that case, why should foreign companies consider investing in the interior?*

Shi: Power plants built at the mine mouths save money on coal and transportation costs.

CBR: *But how would investors in such plants earn foreign exchange? Are there any special provisions to help them?*

Shi: Don't forget that the market for the power is on the coast, which has more foreign exchange. Investors can use the swap centers there or, in places like Pudong, charge some users in foreign exchange.

CBR: *How developed are the transmission grids from the interior to the coast?*

Shi: We are currently studying the costs of building two new grids: one from the southern part of Shaanxi Province to the coast, and one from Inner Mongolia to Beijing.

CBR: *The first two joint-venture power plants in China received guarantees from the Bank of China and People's Construction Bank. Will future projects also receive these guarantees?*

Shi: No more power projects run by the localities will be guaranteed by central banks. Nor will the ministry guarantee purchase agreements; we do not have the capacity to do that. Our function is to organize the construction and planning of new projects.

CBR: *Can foreign investors have operational control of joint-venture power plant projects?*

Shi: If they insist, but then they must take responsibility. I've always thought joint efforts are better, though; Chinese power companies are more used to Chinese procedures and conditions. But I have no objection to foreigners having complete control.

those producing 600MW equipment and above—are Shanghai United Electric Equipment Manufacturing Co., Sichuan's Dongfang Boiler Works, Harbin Steam Turbine Works, Harbin Electric Generator Works, and Harbin Boiler Works. Among the medium-sized (300MW) production facilities are the Beijing Heavy Machinery Works; Hangzhou Boiler Works; a GEC-Alsthom joint venture; and Babcock & Wilcox Beijing, a joint venture between Babcock & Wilcox and Beijing Boiler Works.

Only two Chinese-run facilities produce process control equipment: the Nanjing Automation Research Institute and the Electric Power Research Institute in Beijing. US-based Foxboro Co.'s joint venture, Shanghai-Foxboro Co. Ltd., and Bailey Beijing Controls are the primary foreign-invested enterprises (FIEs) supplying power-station control systems. In the auxiliary equipment market, Shenyang Heavy Machinery Factory and Lingxiang Power Manufacturing Factory both specialize in grading machines.

The competitors

The market for thermal power equipment in China is extremely competitive. GEC-Alsthom, a French-British partnership, is the leader in terms of market share for equipment, but companies from the United States, Japan, and Europe have also made equipment sales.

Japanese companies are known for having superior sales service, according to MOPI, though one ministry source complained that Japanese equipment is "thin-metaled" and requires frequent servicing and repair. The major Japanese player in China is Mitsubishi Heavy Industries, followed closely by Hitachi, which has a joint venture with Dongfang Boiler Works.

A significant market share is also held by Italian companies, particularly GIE and Ansaldo, which have taken a commanding lead in winning Hainan's power contracts. Ansaldo made two big sales to Tianjin's Dagang Thermal Power Plant project in the 1970s; more recently, Italian companies supplied equipment for the Ligang project in Jiangsu Province. German products have a reputation for being reliable, though the German market share, held primarily by Seimens and Deutsche Babcock Co., is relatively small.

The former Soviet states also hold considerable market share, generally financed by barter trade of complete plants for light commodities.

One factor that has strengthened the hand of European companies in China has been their ability to gain concessionary financial support from their governments. A number of European governments provide loans or export credits at concessional, or "soft" (less than commercial), rates on a bilateral basis, tying their financing to purchases from the donor country. These loans, once extremely influential, have diminished somewhat in importance for two reasons.

First, the demand for financing so far outstrips the available pool of soft-loan

Approving Power Investments

Nancy Murphy and Greg Miao

A foreign joint venture to construct and operate a power plant in China generally will involve a Chinese corporate entity owned and controlled by the provincial or local government, or the provincial or local power supply bureau. The PRC partner generally is responsible for applying for government approvals.

With a few rare exceptions, China has allowed private foreign direct investment in the energy sector only in the last two years. As such involvement is still uncommon, a formal, uniform set of procedures for the approval of the construction and operation of foreign-invested power plants does not yet exist. Nevertheless, the general framework of the approval process can be described. According to Ministry of Power Industry (MOPI) officials, power plants larger than 25MW and/or ¥200 million in investment require central government approval. Provided no central-level support is needed, projects below the 25MW/¥200 million threshold may be approved by a provincial planning commission and provincial power bureau, or by a municipal-level planning commission or foreign trade and economic cooperation commission (OFTEC) in certain approved cities and Special Economic Zones.

There are roughly three stages in the approval process for a foreign joint-venture or wholly foreign-owned power plant. In each case, the procedures described below are those that would apply to a power plant project requiring central government approval.

■ **Stage one** Application for approval of the basic project idea is made to MOPI by the agency of the provincial government involved in the project (or by the corporate entity established by the government to be the joint-venture partner). Necessary documents include a general description of the project (size, location, and copies of any agreements signed to date) and a preliminary feasibility study which includes environmental impact and financial information. After it signs off, MOPI passes the materials to the State Council for further review. Within the State Council, the State Planning Commission (SPC) will likely examine the application, paying close attention to available grid capacity and allocation of auxiliary resources such as rail transportation.

Typically, the Chinese side alone is involved in this stage of the approval process. While stage one approval (called *lixiang*) may be applied for either before or after the signing of a letter of intent with a foreign partner, the Chinese entity does not have to identify such a partner at this point. Often a foreign partner is not even sought until after stage one approval has been obtained.

■ **Stage two** Once *lixiang* approval has been granted, the parties to the project must prepare more detailed and extensive documentation for the next stage of the approval process. A formal feasibility study, environmental impact report, and joint-venture agreement (as distinct from the final joint-venture contract) are submitted to the central government by the provincial authorities or PRC partner. At this stage, the foreign partner typically will have substantial input into the feasibility report.

Several entities review and approve the materials submitted during the second stage. The National Environmental Protection Agency (NEPA) will conduct an environmental review, while consulting companies such as the East China Electric Power Design Institute and the Shanghai Electric Power Design Institute will review all aspects of the project's technical feasibility. Ultimately, the State Planning Commission will pass judgment on the proposal.

■ **Stage three** Once stage two approval has been obtained, the parties to the project may finalize a formal joint-venture contract, which, together with bank references for each party and the articles of association of the joint-venture company, are submitted for final approval to MOPI and the State Council. When the final approval is obtained, the joint venture may apply for its business registration license, open bank accounts, and generally commence doing business in China.

Unlike stages one and two, there is a legally mandated three-month deadline for finalizing stage three approvals, as per the usual foreign joint-venture regulations. The entire approval process, however, can take years to complete, depending in large part on the Chinese partner's standing, the proposed size and location of the investment, and the project details. It reportedly took Hopewell Holdings three years to obtain all the necessary approvals for the Shajiao B project.

Projects which can be approved at the provincial or local level rather than at the central government level would take similar steps with the appropriate provincial/local authorities. Truly local-level projects involving a foreign investor will be rare, however, as such projects generally are too small to be of much interest to most foreign investors.

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funds that opportunities are hardly lacking for those without this advantage. Second, the industrialized nations party to the Organization for Economic Cooperation and Development (OECD) agreed recently to curtail soft loans for projects able to attract commercial funding in China and other countries (*see The CBR*, May-June 1993, p.36). This new policy has succeeded to a degree in curbing the number of foreign government loans to power projects. The soft loans in this sector now appear to be directed primarily at supporting new facilities with relatively advanced environmental controls. According to the Chinese government, it is the environmental element that qualifies the projects for concessionary finance. To a large degree, the decline in use of concessionary funds in China's power sector has translated into better prospects for US sales now than at any time in the past few years.

A welcome to investors

Clearly, China cannot afford to finance all of the imported equipment it needs to boost its power supply. In order to compensate for its shortfall of investment funds, the Chinese government late last year opened the power industry to a whole range of new financing arrangements, most of which previously were possible only in Guangdong Province. Among such arrangements are two forms of direct investment in construction and operation of power plants: build-operate-transfer (BOT) and build-own-operate (BOO).

> In the end, BOO contracts will probably closely resemble BOT arrangements, but will omit the transfer of ownership to local control.

BOT projects in China were pioneered in Guangdong Province by Hong Kong's Hopewell Holdings Ltd. (*see The CBR*, January-February 1993, p.38). Hopewell's first BOT project, the Shajiao B power plant, is a coal-fired plant with a 2x350MW capacity. The success of that venture led to the development of the Shajiao C facility, a 3x660MW plant currently under construction. Shajiao C's foreign investors, a consortium which includes Hopewell Holdings Ltd., Sun Hong Kai Properties, Kanematsu, and Nissho Iwai, contributed 40 percent of the registered capital and raised $750 million from a syndicate of 36 banks. Press reports state that the offering was oversubscribed by 50 percent.

The Shajiao C joint venture will operate over a 20-year period, with 4 years' leeway given for construction. The first unit is planned to come on line in March 1995. Shajiao C's Chinese partner, the Guangdong Provincial Power Generation Co., is contractually obligated to purchase 62 percent of the plant's output. The Guangdong International Trust and Investment Corp. has guaranteed partial payment in US dollars under the purchasing agreement.

BOO plants, which are 100 percent foreign-owned, do not yet exist in China, though legally they are permissible. MOPI and the SPC will be no doubt look to the BOT projects that emerge from the many negotiations currently underway to help form the legal and contractual foundations for future BOO arrangements. In the end, BOO contracts will probably closely resemble BOT arrangements, but will omit the transfer of ownership to local control.

At this point one can only guess what sort of contract terms will emerge as the models for BOT/BOO projects and, eventually, for the legal regime which will govern foreign direct investment in China's power sector. In general, the Chinese will examine several criteria when reviewing a potential BOT/BOO project: the ability of local consumers to bear an electricity tariff high enough to make the facility economically viable; the projected ability of the project to be financially self-sufficient; the technical standards of the plant; and how the project fits into both China's power grid scheme and national

Best Sales Prospects

The US and Foreign Commercial Service has identified the following products as the most promising for US companies wishing to sell to China's electric power producers:

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- Steam- and other vapor-turbines exceeding 7,460 kw
- Economizers for boilers
- Once-through (*Zhilin*) boilers
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development plans.

Foreign power developers and bankers, of course, will have additional criteria in mind. Chief among them is whether foreign exchange will be available for profit repatriation, loan payments, and equipment purchases (*see* box). According to MOPI Minister Shi Dazhen, foreign companies should not look to Shajiao C as a model in this regard, however. At a recent seminar co-hosted by the US-China Business Council and the US government, the minister stated that projects run by localities would no longer receive foreign exchange guarantees from central banks (*see* p.35).

If companies cannot count on the purchase agreement obligation being denominated in foreign exchange, they have only three other ways to generate a flow, however sporadic, of foreign exchange in the absence of a convertible currency in China. The first is to export enough electricity to balance foreign ex-

Negotiating a Power Plant Contract

Paul L. Weber

Walk into any of the dozens of conference rooms across China where businesspeople are negotiating arrangements for power plant joint-ventures and you are likely to hear a predictable set of issues being discussed: What is the unit electricity price? Who will construct the plant and under what terms? Who will operate the plant? Who will assume the risks of fuel supply and transportation, changes in laws, and force majeure? How will foreign exchange risk be handled? The parties must resolve each of these issues if the deal is to move forward. Based on my firm's experiences negotiating 11 potential power plant projects, here's a description of how three of these issues—electricity price, foreign exchange risk, and operational control—might be negotiated:

■ **Electricity price** In any electricity pricing negotiation, the Chinese parties will likely make it clear early on that the sort of rich returns enjoyed by some early projects will not be seen again in China—and certainly not in the transaction under negotiation. Instead, they will talk of a 15 percent annual rate of return on the equity of the foreign joint venture partner as the maximum return allowed by the Ministry of Foreign Trade and Economic Cooperation (MOFTEC).

Further discussions, however, will reveal that the 15 percent return may be subject to negotiation and is based on operations of approximately 5,500 hours/year. Returns would be higher for operation above that level. While the 5,500 hours/year (or 63 percent) operating standard is the approximate norm for power plants in China, foreign developers are accustomed to running coal-fired plants 7,000-7,500 hours/year and believe that similar results may be achieved in China.

It is also possible to negotiate the term over which the 15 percent rate of return is to be calculated. The shorter the term, the greater the potential real return on equity. The Chinese parties, perhaps citing "international custom," will argue that the return period should be equal to the joint-venture term, while the foreign developers will argue, often successfully, for a shorter term.

Once the parties have reached agreement on the equity return issue, the negotiations will focus on the other components of the electricity purchase price. In general, the task for the foreign developer here is to assure that over the life of the joint venture, project revenues will be sufficient to generate the targeted equity return and cover project expenses, both fixed and variable. Thus, the electricity purchase price must cover debt service on loans made to the joint venture as well as fixed operations and maintenance costs. It must also contain a component that enables the joint venture to cover costs that vary directly with output, such as fuel costs.

For debt service, if all of the components of the various loans to the joint venture have been determined, the parties can calculate the total cost of project debt with reasonable confidence and easily determine this element of the pricing formula. If not, the foreign developer may be uncomfortable assuming the risk that he can raise project debt in international financial markets and will attempt to negotiate a pricing formula that gives himself considerable latitude in terms of the interest rate and amortization terms of that debt. For their part, the Chinese parties will not accept unlimited price exposure for project debt payments and will seek to negotiate a cap on these payments. The success of the negotiation will turn on finding a limit acceptable to all parties. The parties can then negotiate how to share the benefits of a debt financing package in which service payments fall below the negotiated cap.

For operations and maintenance charges, the ideal in a project-financed power plant is to lock in all or most of the project's normal operating costs in long-term contracts that closely match these costs with electricity sales revenues, so that increases in operating costs do not outstrip increases in the electricity price. The most important of these contracts is the fuel supply agreement, since fuel will be by far the plant's greatest expense.

However, since long-term coal supply contracts are rare in China (and require additional approvals from the Ministry of Railways and the Ministry of Coal Industry), negotiations on this aspect of the electricity price are likely to shift to the more significant question of which party will be responsible for delivering sufficient fuel to the power plant site. The foreign developer may well attempt to shift this risk, including the associated price risk, entirely to the provincial power bureau, thus removing the fuel supply element from the electricity purchasing price equation. Under such a scenario, fuel costs are excluded from the electricity purchase price because the power bureau has already paid for the fuel.

The parties negotiating electricity purchase prices in China must build the pricing formula piece by piece, taking into account the equity return, payments on project debt, and fixed and variable operation and maintenance costs. But in essence, these negotiations are a dance around each side's real objective. For the foreign developer, the pricing formula

change income and expenditures. This can be done, after a fashion, by selling power to foreign joint ventures for payment in foreign currency, as Hopewell has done in Guangdong. But this solution is likely to be only partially effective, as there probably will not be enough FIEs willing to pay scarce hard currency for electric power to cover the foreign exchange needs of all the proposed projects now under discussion.

The second method of obtaining hard currency involves swapping on China's foreign exchange adjustment centers, where foreign exchange may be purchased for domestic currency. However, the swap centers are erratic at best: sometimes, dollars are offered only at a substantial premium; at other times, there are virtually no dollars for sale (*see* p.9).

The third way to generate foreign exchange is to use domestic currency earnings to buy local products which can be exported. This method has obvious defi-

must function so that if the power plant is operated approximately 7,000-7,500 hours/year, it will earn an annual net return on equity of at least 25 percent. For the Chinese parties, this price must make sense given the conditions of the local economy and based upon their expectations about the development of the province or locality over the joint-venture term. Of course, this price sensitivity makes it more difficult to negotiate an electricity price in the less affluent inland provinces than in the booming coastal provinces.

■ **Foreign exchange risk** After the electricity pricing negotiations are completed, or perhaps as part of those negotiations, the parties will turn to the issue of foreign exchange. Of the two principal risks in this area, rate risk and convertibility risk, it is easier to address the former. The foreign developer simply cannot take the risk that electricity payments will be denominated in *renminbi* (RMB) without adjustment for changes in the RMB to US dollar (or other foreign currency) exchange rate. Either the Chinese parties accept the need to eliminate this currency risk or essentially the deal is off.

Once the parties agree on this point, the solutions are easy: either denominate in US dollars a portion of the electricity offtake sufficient to cover all of the joint venture's foreign currency obligations (e.g., payments on foreign loans and distributions of profits to the foreign developers), or periodically adjust RMB-denominated payments to reflect changes in the RMB to US dollar exchange rate offered at the swap centers.

The convertibility risk negotiation may be more difficult. The simplest solution is for the power bureau to pay a pre-determined portion of the electricity offtake in a freely convertible currency, preferably directly to an offshore bank account. This approach has been utilized in foreign exchange-rich coastal provinces, such as Guangdong. In addition, under a new policy, provincial power bureaus are beginning to charge some retail customers (e.g., export-oriented joint ventures and certain service ventures like hotels) in hard currency.

The Chinese parties, however, may start the negotiations by telling the foreign developer about the efficiency of the swap centers and offer to walk with them hand-in-hand to the swap-center door. The foreign developer is likely to find this risk unacceptable and international lenders will accept it only with extreme reluctance. At a minimum, the foreign developer will look for a guarantee of convertibility and repatriation from a creditworthy and foreign exchange-rich Chinese entity (possibly the provincial international trust and investment corporation) as well as assurances from the provincial government that the guarantee obligations will be honored.

■ **Operational control** Most joint venture power plants must operate at levels well above the Chinese average for the foreign developer to earn a suitable return on equity. The provincial power bureau, however, may be unwilling to guarantee an operating level much in excess of the Chinese norm. A primary reason for this reluctance is the general lack of peaking facilities (e.g., gas- and oil-fired power plants) in Chinese power pools. Thus, coal-fired plants may not be run in the most efficient baseload mode. Instead, their output is increased or decreased according to the needs of the provincial and regional power grids. For these reasons, many developers will want to operate (or engage a third-party operator to operate) the power plant, assuming that adequate arrangements respecting project dispatch are negotiated. With this right, the developer gains greater control over the project.

For some power bureaus, operational control may not be a significant issue, particularly if the foreign developer is the joint venture's majority investor. The bureaus may make inquiries about the developer's management model (e.g., staffing levels, management philosophy, etc.) and may seek assurances about the developer's capabilities to operate the plant, but will otherwise readily accede to the developer's request for operational control.

In other provinces, power bureau officials may fight this request vigorously. They will argue that they hold a monopoly on electric power and are unwilling to cede this strategic asset, especially to a foreigner. They may also voice concern over proper integration of the joint venture's power plant into the provincial and regional power grids.

There is not a lot of room to maneuver on this issue. If pricing is structured so that achievement of an acceptable equity return is based on operation levels customarily achieved in developed nations (and not customarily achieved by the power bureau), then the foreign developer will have great difficulty accepting a deal in which he does not control operations of the plant. If the power bureau is intractable in its position, there may be little room for negotiation. However, the parties may be able to negotiate a deal under which the foreign developer controls the operations of the power plant (perhaps for a limited number of years) with assistance from the power bureau and shares with the power bureau any bonus payable for good operations. Through this approach, the foreign developer gains control over the operation of the plant and the valuable assistance of the power bureau in running it.

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ciencies. First, few power plant investors are likely to have the expertise or desire to take on the functions of a trading company, though some may be willing to work with a trading company to conduct countertrade transactions. Second, it can be difficult to find exportable products that Chinese enterprises are not already exporting on their own. Third, many possible export products are commodity items, the prices of which often fluctuate widely on world markets. Such swings would inject considerable uncertainty into the neat financial calculations most banks and investors want to see before they commit to investing money in a project (*see* p.28).

Another key issue for foreign investors is the lack of a legal regime governing private project finance investments in the power sector. A body of law regulating this sector will eventually emerge from successive contract negotiations to provide precedents for future legislative codification. Until then, each contract will essentially be an ad hoc, though contractually binding, arrangement.

Most of the impediments to foreign investment in China's power sector would be eliminated at a stroke if the government made China's currency convertible on international markets. Many sources predict that full convertibility could be a reality within five to seven years. But this timeframe is speculative at best. For now, the search is on for a viable formula that makes foreign companies more comfortable about investing in power plants within the constraints set by current government economic policy.

Upcoming development

As prospective foreign and Chinese partners hash out these issues, the Chinese government, for its part, is not standing idle. Central-level officials are formulating new policies to attract foreign funds into China's power industry. Three key points are under discussion.

First, Beijing is looking at ways to boost World Bank, Asian Development Bank (ADB), and Japanese OECF lending for power plants in China. Second, Chinese officials, in cooperation with the ADB, are formulating new investment guidelines to help attract foreign joint-venture and equity investment in the power sector. The outlines of the emerging policies are not yet clear, but the issues under consideration concern the maximum allowable internal rate of return, maximum electricity tariff rates, and the feasible limits on the percentage of foreign equity participation.

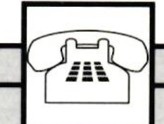
In several respects, though, reality has run ahead of policy. As potential investors are already discussing ownership and management issues, the new guidelines will probably not affect current contract negotiations. Rather, they likely will be used by the government as a benchmark in the contract approval process. If concluded contracts deviate too far from the guidelines, they may encounter resistance within the central government thereby running the risk of not being implemented.

The third point currently being reviewed by Chinese authorities concerns shareholding arrangements and outright sales of major equity ownership shares in existing power plants. Here again, business activity has outpaced policy deliberations. A Hong Kong investor recently acquired 54 percent of the shares of a Shenyang municipal power plant. Two more equity sales agreements involving Hong Kong investors and power plants in Shandong Province are now under consideration for approval by the central government. These investments, as in the case of the BOT negotiations, are pilot projects approved in the absence of a comprehensive official policy toward shareholding systems. A full opening of the shares market awaits the establishment of central government guidelines. Again, as with BOT, Western investors will want to see avenues provided for hard currency repatriation and a stable legal regime in place before committing substantial funds to purchase shares in Chinese power plants.

Full steam ahead

Despite the many obstacles in the way of foreign investors and suppliers, China's electric power market offers significant opportunities. Central government support for new power plant ownership schemes and for decentralization of the power sector is firm. Patient investors and independent power operators stand to gain from establishing a presence in an electric power network sure to become one of the world's largest. As in any sector in China, investors must take a long-term view, be persistent, and hold out for contracts that make solid business sense. At this point, each contract signed will have a significant impact on the shape of China's investment environment as a whole.

The situation for equipment suppliers is a bit simpler. The rationale for a full commitment to the China market is clear: no country is building as many power plants as China is now. The field is wide open, but success will require paying at least as much attention to the provinces and municipalities as to Beijing. Competition is stiff, and the American penchant for trying to attack large markets with minimal resources is unlikely to be successful. In China, a long-term, grass-roots strategy is essential. 完



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Lighting the Way for Energy Savings

■ Jessica Hamburger

A new facility in Beijing can help US firms promote energy efficiency in China

■ **Jessica Hamburger is an associate in the Advanced International Studies Unit at Battelle, Pacific Northwest Laboratories in Washington, DC.**

Billions of *yuan* and dollars—Chinese and foreign, public and private—are pouring into new power plant construction in China. At the same time they increase power generating capacity, however, China's government officials and energy planners are keenly aware of the need to improve energy conservation efforts in order to save money and minimize environmental degradation. To promote public consciousness of the issue, Chinese leaders designated October "energy conservation month" and launched a public awareness campaign to highlight the fiscal and environmental benefits of saving energy.

The campaign was the most recent effort by government authorities to boost recognition of energy conservation issues. Indeed, energy conservation has been on China's national agenda for over a decade; it has been included in each Five-Year Plan and annual sector plan since 1981. Though official policy calls for China's provinces to pay equal attention to increasing power capacity and boosting efficiency, supply- and demand-side activities are budgeted separately and implemented by different entities.

Big savings

Energy efficiency in China, as in any country, involves far more than just turning off a few lights. For the past decade, China has successfully produced more goods while using less energy. During the 1980s, China's energy intensity (energy used per unit of GNP produced) decreased by 30 percent, according to the Chinese Energy Research Society. The adoption of more advanced technologies and the growing shift from heavy to light industry were the primary reasons for the energy savings.

The gains were also aided by a number of policies aimed at enhancing energy efficiency. In 1981, Beijing created an energy efficiency investment program, which offered low-interest loans and tax exemptions for efficiency improvement projects. The program invested ¥11.28 billion from 1981-91, and attracted nearly ¥10 billion in additional funding from local governments. Pilot projects in high-efficiency boilers, coal gasification, district heating, smelting, and other areas were funded throughout the 1980s. Some of these technologies were adopted industry-wide, which helped China save roughly 270 million tons of coal equivalent (Mtce) from 1980-90, according to the State Planning Commission.

While initial improvements in energy efficiency were relatively easy to achieve because China started from such a low base, further progress is critical if the country is to maintain its impressive economic growth. More improvements are needed in both technologies and policies to enhance energy efficiency. Within the power sector, State Council efficiency specialists say large-scale power plants,

high-voltage transmission equipment, and clean-coal technologies must be utilized to improve energy savings. About one-third of this equipment will likely be purchased from abroad, chiefly from Japan, Germany, Russia, and the United States.

But foreign firms can play a broader role in improving overall energy efficiency in China. Transferring technologies and methods for reducing electricity demand is equally—if not more—important than increasing generating capacity, since endusers are responsible for about half of all power losses. Improving the efficiency of motors, for example, has great potential to reduce electricity use because motors account for about 65 percent of China's total electricity consumption. The incremental cost of buying a more efficient motor, moreover, can be quickly recouped, as the annual electricity cost of operating a motor is typically several times the purchase price, particularly in the coastal areas, where electricity prices are higher they are than in the interior.

On the policy side, China needs to move toward implementing nationwide standards and other directives aimed at enhancing efficiency. While Beijing currently provides efficiency guidelines for widely used motors, fans, pumps, and other equipment, no central-level directives mandate enforceable minimum efficiency standards. China's planners have, however, been moving toward implementing a consumer labeling system—an approach proved effective in the United States—and other measures aimed at establishing minimum efficiency standards.

Beijing will also have to address the issue of electricity pricing, as electricity is available to many State enterprises and other users at artificially low prices, giving these endusers little incentive to conserve energy. While the number of endusers paying market prices has increased in the 1990s, Chinese authorities have stated they intend to fully marketize electricity and energy prices within the next few years. Despite a temporary setback on this front last summer, when central authorities conceded that price reforms would be put on hold until inflation could be brought under control, China will no doubt continue to move toward rationalizing its energy prices in the near future.

Filling the information gap

To address China's need for information on the policies and technologies that offer the greatest energy savings, the Energy Research Institute of the State Planning Commission, together with Battelle Pacific Northwest Laboratories and Lawrence Berkeley Laboratory, opened the Beijing Energy Efficiency Center (BECon) in November. BECon will concentrate on implementing innovative programs in China's government and private sector to boost efficiency. At the administrative level, BECon will work with government planners to implement efficiency standards and establish fiscal incentives—such as rebates and tax breaks—to conserve energy. On the private-sector side, the center will help introduce foreign technologies to help China maximize energy savings.

> Foreign firms can play a broader role in improving overall energy efficiency in China.

Staffed by around a dozen Chinese and US energy experts, BECon will draw heavily on the experiences of similar centers established by Battelle in Eastern Europe and Russia. The non-profit center has an initial budget of $600,000 for the first three years, after which BECon is expected to become self-financing. Other BECon sponsors include the US Department of Energy, the US Environmental Protection Agency, and the World Wildlife Fund. The new Beijing center will concentrate on activities in four areas:

- Providing policy advice to central and local government agencies
- Supporting the development of energy efficiency businesses
- Creating and implementing public information and technical training programs for Chinese energy planners and managers
- Designing mechanisms for financing energy efficiency, including setting up a disbursement system for loans from multilateral organizations such as the World Bank and Asian Development Bank, both of which have begun to focus more on energy efficiency

BEcon can assist foreign producers of energy-efficient equipment gauge investment prospects in China, as well as identify potential joint-venture partners. One of the center's primary goals is to bring

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local and foreign partners together to create joint ventures which manufacture and install energy-efficient products and processes. Though such ventures will not automatically receive high-tech status, some of the anticipated ventures will likely receive these and other benefits.

In order to facilitate foreign investment in energy efficiency projects, BECon provides general reports (for a minimal fee) on subjects such as overcoming the barriers to the transfer of energy efficiency technologies. More tailored information is also available. Foreign joint-venture managers can also tap into the center's expertise and referral services to find technical solutions to questions about improving energy efficiency at their ventures.

A number of US firms have already taken the plunge into China's efficiency market. Companies such as Honeywell Inc., Johnson Controls, and The Foxboro Co. produce control systems in China designed to improve the efficiency of commercial buildings and industrial processes. Armstrong International, a Michigan-based company, is investigating the market for steam traps used to enhance the efficiency of many industrial processes, and is currently looking at joint-venture opportunities in China. Mitor Industries of Mankato, Minnesota has already sold a compact fluorescent-lamp production line to a factory in Qingdao. Other US groups have been exploring opportunities in the sale or licensing of renewable energy technologies in areas such as photovoltaics, wind power, biomass, and solar heat.

With its strong links to efficiency experts, officials, and businesspeople at the national and local levels, BECon can help interested firms set up joint ventures or demonstration projects in China. BECon's close ties to the State Planning Commission and strong support from several leading energy planning and management officials should strengthen the center's long-term prospects. By supporting China's efforts to adopt the most energy-efficient technologies available, BECon should prove a useful ally to China and US companies alike. 完

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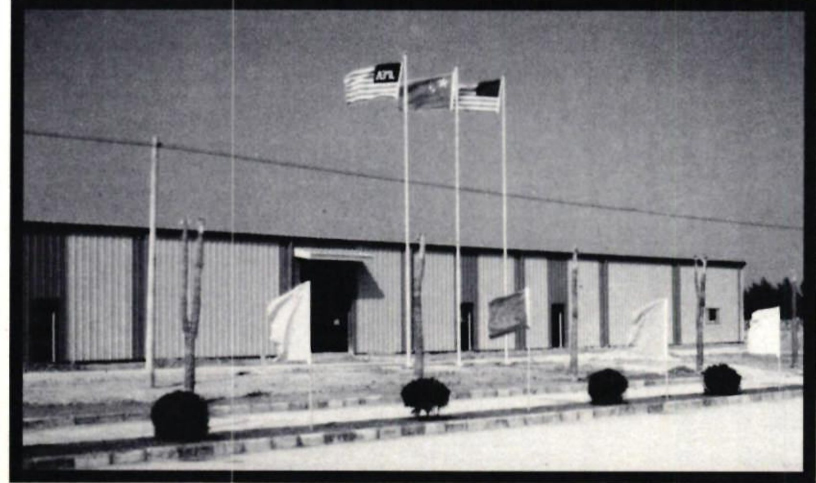

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Medical Care When You Need It

■ David Richter

Treatment facilities for foreigners in China's big cities are improving

■ David Richter is general manager of AEA International's Beijing office. He has been working and traveling in China since 1980, including a five-year stint with the US-China Business Council as program manager of Business Advisory Services and deputy director of the Beijing office.

Last August, a minivan carrying 11 Hong Kong tourists near Dunhuang in western China was hit from behind by a bus. The van rolled into a deep ditch, critically injuring one passenger's spine. She underwent emergency surgery locally, but needed to be transported to Hong Kong for follow-up care. But how could she be moved without aggravating her injuries? The logistical problems were daunting—especially since the Dunhuang airport was closed for renovation.

To transport her to Hong Kong, the victim's family contacted a medical evacuation service. Within 36 hours, the service had chartered a Chinese military jet and convinced the People's Liberation Army (PLA) to open the Dunhuang airport for two hours. The patient was then flown to Shenzhen and transferred promptly to a helicopter for the 20-minute flight to Hong Kong. At the Hong Kong airport, a waiting ambulance sped the patient to the hospital.

Few foreigners will need such dramatic intervention to cope with their medical needs in China, particularly since the care there is improving. Nevertheless, the key to medical safety in China is to be familiar with the medical services available—before an emergency occurs. Knowing where to go or whom to call can be critical in both life-threatening and non-emergency situations.

In an emergency

Typically, foreign victims of car accidents or those suffering from other medical emergencies are taken to Chinese hospitals. Patients who require long hospital stays or who are too ill or injured to travel alone on commercial flights are usually evacuated to hospitals in Hong Kong or Japan as soon as their condition has stabilized.

Currently, several medical evacuation companies operate in China. The two leading companies are Singapore-based Asia Emergency Assistance (AEA) International and Philadelphia-based International SOS. SOS and AEA both operate 24-hour offices in Beijing and also have offices in Hong Kong (*see* box). Another evacuation firm, Paris-based Europe Assist, recently closed its office in Beijing and uses the China International Travel Service (CITS) as its agent.

Cuts and bruises

As the foreign community in China has grown and the number of families with children has risen, the need for more routine medical treatment has increased. Fortunately, the number of facilities offering medical services to foreigners has grown dramatically in the past year and the overall quality of health care continues to improve rapidly.

For non-emergency medical problems, expatriates increasingly are turning to

new foreign outpatient clinics, which can provide checkups, x-rays, and lab tests. Western doctors are available to treat colds, the flu, and other not-so-serious illnesses. However, most Westerners still tend to postpone elective surgery until they return home or go to Hong Kong, due to concerns about communication difficulties and Chinese hygiene standards. Similarly, most expatriates try to avoid having dental work done in China, and most foreign women return home to deliver their babies.

Need you worry?

But what if you can't return home? Just how good are Chinese hospitals and Chinese doctors? In short, China has many excellent doctors and well-equipped hospitals, particularly in the major cities. A large number of patients (mostly overseas Chinese from Southeast Asia and Taiwan, but also some American Chinese) actually travel *to* China for treatment of serious illnesses such as cancer. Medical services in China vary significantly among cities, however, and especially between the cities and the countryside.

Such inconsistencies are a main source of expatriate anxiety about receiving medical care in China. But luckily for foreigners, the Chinese place great emphasis on the treatment and care of their foreign guests. Hospitals tend to assign their top doctors and nurses to care for foreign patients and are eager to use sophisticated Western equipment—though often at a steep price. In addition, many Chinese doctors have been trained in the West and can explain a patient's medical condition in the patient's own language, thereby easing fears of being ill so far from home.

Beyond the equipment and the doctors, however, many Western patients are uncomfortable with the physical appearance of Chinese hospitals. Many hospitals look quite old, regardless of whether they were built in the 1920s or 10 years ago. For Western patients accustomed to bright, antiseptic hospitals, Chinese facilities can prove a dreary contrast. The dirty appearance of many hospitals also frequently makes foreign patients fearful of infection.

Such fears are not completely unfounded. The hygiene standards of the average Chinese hospital are generally far below those of its Western and Japanese counterparts and nursing care is also quite different. Unlike patients in the West, who are encouraged to get up and about soon after surgery, patients in China spend long stretches of time immobilized. This practice increases the risk of post-operative infection and complications, and leads to a high incidence of bed sores and other ailments that could be avoided through better nursing care.

The Chinese place great emphasis on the treatment and care of their foreign guests.

Foreign concerns over medical hygiene hit a peak earlier this year when the Chinese and foreign press reported that used disposable needles were being re-packaged and sold to Chinese hospitals. The hospitals involved had actually ordered and thought they were using new, disposable needles. Though no foreigners were reported infected in this incident, Westerners' anxiety over needles in Chinese hospitals certainly rose. The culprits in the incident reportedly were punished severely.

China's blood supply is another concern for foreign patients as blood stocks are not screened as carefully as are supplies in the West. Hepatitis C, for example, is not screened for at all. It is conceivable that a foreigner could get hepatitis from a transfusion in China, though no such cases have been reported. Furthermore, Rh-negative blood is virtually non-existent in the Chinese population, so an expatriate who is Rh-negative should be sure to inform his doctor of that fact. Rh-negative foreigners should also identify other foreigners who could be donors in case of emergency, and be sure to have plasma replacement fluids available on short notice.

To protect themselves from the risk of blood or needle contamination, many foreigners keep first-aid kits in their vehicles and homes. These kits should include disposable hypodermic needles to ensure sterile injections as well as a plasma replacement fluid or colloid solution, such as "Haemaccel," to be used instead of blood in emergency situations. Infusion and injection kits are very popular both with expatriates living in urban areas and those exploring remote regions in China. Kits are available at AEA offices and elsewhere.

Foreigners needing blood transfusions can contact the Beijing International Healthcare Network, an informal organization of healthcare professionals who help coordinate a walking blood bank, or list of people willing to donate blood to other community members in the same blood group. As the Beijing group's blood is not screened at all, however, the blood bank should be used as a last resort. For people with Rh-negative blood, though, it may provide their only option in case of acute injury. At present, only Beijing has a walking blood bank and only expatriates are being registered.

New focus on foreigners

The expatriate community isn't alone in working to increase its medical options; a growing number of Chinese hospitals are opening foreign clinics and foreign wards. Profit is clearly a driving factor in the development of most of these facilities, as hospital administrators and public health officials recognize they can charge foreigners more than local citizens.

Since 1989, many foreign wards have opened either as joint ventures or as extensions of major hospitals, ranging from the new joint-venture foreign patient ward at Shanghai's Huashan Hospital to a foreign ward being built at the PLA General Hospital in Beijing. Even the Ministry of Public Health is getting involved, having established a separate company to be International SOS's joint-venture partner in Beijing's International Medical Center.

In addition to the emergence of foreign wards within Chinese hospitals, a number of new foreign clinics have opened in Beijing. This is largely due to the passage this January of regulations permitting foreign doctors to practice in China. Basically outpatient facilities designed to complement hospital care, the new clinics have opened only in Beijing, though some firms are talking about opening facilities in Shanghai and Tianjin.

Chinese Care Providers for Foreigners

The medical options for foreigners in China vary depending on where they live and how long they will be staying. Beijing currently has the most options, but Shanghai also has some very good facilities. The chart below is a summary of the services available in China's major cities:

BEIJING

EMERGENCY CENTERS

Beijing Emergency Center
103 Qianmen Xi Dajie
Tel: 601-4433
Emergency Tel: 120
Fully equipped ambulances donated by the Italian government. Callers should be sure to ask for the imported ambulance. No overnight stays.

HOSPITALS

Airport Hospital
Beijing Capital Airport
Tel: 456-5260, -4134, -5268
Fax: 456-5264 (Pharmacy)
Limited facilities, but has ambulance available for tarmac access at airport. 100 FEC/night. 8 beds for foreigners.

Beijing Fu Wai Hospital
167A Beilishi Lu
Tel: 831-4466
Leading Chinese hospital for cardiology problems. No foreign ward, but 400 beds for senior cadres are also available for foreigners.

Beijing Tongren Hospital
2 Chongwenmennei Avenue
Chong Wen District
Tel: 512-9911
Administered by Capital Medical College of Beijing. Strong opthamology and ear, nose, and throat (ENT) departments. A new 14-story clinic opened in September to house Taiwan-invested Tongren International Ophthalmology Center. Many patients are from Southeast Asia. For best facilities, 260-350 FEC/night.

KEY

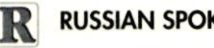
AMBULANCE

FRENCH SPOKEN

DENTAL SERVICES

GERMAN SPOKEN

PHARMACY



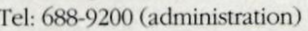
JAPANESE SPOKEN

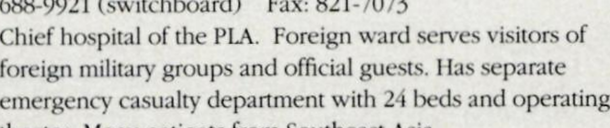
24-HOUR SERVICE

RUSSIAN SPOKEN

ENGLISH SPOKEN

SPANISH SPOKEN

General Hospital of the PLA

(No. 301 Hospital)
28 Fuxing Road
Tel: 688-9200 (administration)
688-9921 (switchboard) Fax: 821-7073



Chief hospital of the PLA. Foreign ward serves visitors of foreign military groups and official guests. Has separate emergency casualty department with 24 beds and operating theater. Many patients from Southeast Asia.

Peking Union Medical College Hospital (Beijing Capital Union)
1 Shuai Fu Yuan
Dong Cheng District

Tel: 512-7733 (ext. 397 Foreign Medical Dept.) Fax: 512-4875
Leading hospital in Beijing; established in 1921 by the Rockefeller Foundation. Construction has begun on a new complex that will include a 100-bed intensive care unit and a 100-bed foreign patient ward. 150-250 FEC/night. 30 beds for foreigners.

Sino-Japanese Friendship Hospital
Ying Hua Lu
Chao Yang District
Tel: 422-1122 Fax: 421-7749
Beijing's largest hospital; established in 1984 with money from Japanese government. Administered by Ministry of Public Health (MOPH). 100-150 FEC/night.

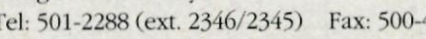
CLINICS

(Clinics are outpatient facilities and therefore do not have beds for overnight stays)

AEA International
Suite 1010
China World Trade Center
1 Jianguomenwai Dajie
Chao Yang District
Tel: 505-3521 Fax: 505-3526
Member-only services until new clinic opens in 1994. Provides full range of emergency services, including labwork. New facility will also have x-ray and ultrasound equipment. Can provide emergency medical evacuation.

Hong Kong International Medical Center
3rd Floor, Swissotel
Dong Si Shi Tiao Flyover

Tel: 501-2288 (ext. 2346/2345) Fax: 500-4660



Joint venture with Dr. Ira Feng, a Hong Kong investor. Staffed by experienced Chinese doctors. Facilities include one dental chair and general x-ray, ultra-sound, and lab equipment. Hours: 9:00am-9:00pm.

International Medical Center

Kempinski Hotel
Beijing Lufthansa Center
Chao Yang District
Tel: 465-3388 (ext. 5525) Fax: 465-1984
Has emergency/trauma room, lab, x-ray, and ultrasound equipment. Offers emergency medical evacuation in cooperation with International SOS. Offers individual and corporate plans (requires deposit based on number of employees). Members get discounted rates on services.

Jing-Liang Dental Clinic

No. 133 Dianmenwai Street
Xi Cheng District
Tel: 403-0386 Fax: 403-1330
Has Australian dental therapist trained in pediatric dentistry. Can do most procedures for children including cleaning and fillings, as well as basic adult procedures.

Sino-German Polyclinic

Landmark Tower, B-1
8 North Dongsanhuan Road
Chao Yuan District
Tel: 501-1983 Fax: 501-1944

SHANGHAI

■ EMERGENCY CENTERS

Shanghai Emergency Center
68 Haining Road
Tel: 324-4010 Fax: 320-7612
Emergency Tel: 120
Ambulance fee is 19 FEC plus 2 FEC/km. No overnight stays.

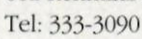
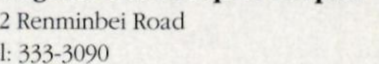
■ HOSPITALS

Huadong Hospital

221 Yanan West Road
Tel: 240-3180 Fax: 248-4981
The teaching hospital of Shanghai Medical University, Huadong is administered by the Shanghai Health Bureau. Most patients are overseas Chinese, though there are some Westerners. 200-450 FEC/night. Ambulance fee to airport is 60 FEC. 45 beds for foreigners.

Huashan Hospital

12 Wulumuqi Zhong Road
Tel: 248-9999 Fax: 248-9191
The hospital's Huashan Worldwide Medical Center foreign ward is a Hong Kong joint venture. Affiliated with Shanghai Medical University, the hospital serves both Western and Asian patients. Handles most specialties with the exception of pediatrics and gynecology. 205-650 FEC/night. Ambulance fee to airport is 100 FEC. 42 beds for foreigners.

Ruijin Hospital
197 Ruijin Er Road
Tel: 433-3725 Fax: 433-3548
General hospital affiliated with Shanghai No. 2 Medical University. Excellent burn treatment center. A 3-story joint-venture clinic with a Hong Kong company is scheduled to open by early 1994. It will have a small operating theater. 40 beds for foreigners.

Shanghai First People's Hospital

International Medical Care Center (IMCC)
585 Jiulong Road
Hong Kao District
Fax: 306-9484 Tel: 306-9478
IMCC, the hospital's joint venture with Austria-based Voest-Alpine, opened in July. An American nurse manages the center. 700 FEC/night suite + 100 FEC service fee, 320 FEC/night single room + 80 FEC service fee. 80 rooms for foreigners.

Shanghai Posts & Communications Hospital

666 Changle Road
Tel: 247-4215 Fax: 247-4215
Has Houcheng Dental Clinic, a Japanese joint venture, that is regarded as best dental facility in Shanghai. Dental clinic hours: 8:00am-6:00pm. tel: 247-7000, fax: 247-6193.

Shanghai Sixth People's Hospital

600 Yishan Road
Tel: 436-9181 Fax: 470-1361
Built and equipped with Japanese funding. Opened in 1991. 150-200 FEC/night. 28 beds for foreigners.

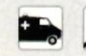
Zhongshan Hospital

136 Yixue Yuan Road
Tel: 471-3400 Fax: 433-8472
Affiliated with the Shanghai Medical University and administered by MOPH, the hospital holds prestigious status in the Chinese medical field. Liver cancer ward and research institute attracts many overseas Chinese for treatment. 140-180 FEC/night plus 20 FEC/day service fee. Ambulance fee to airport is 30-50 FEC. 20 beds for foreigners.

GUANGZHOU

■ HOSPITALS

Guangzhou No. 1 People's Hospital



602 Renminbei Road
Tel: 333-3090
Administered by the Municipal Health Bureau, the hospital provides medical personnel to staff the clinics in Guangzhou's China Hotel, Garden Hotel, White Swan Hotel, and Holiday Inn. The hospital has a foreign patient ward. $HK200/night. 10 beds for foreigners.

GUANGZHOU—*continued*

First Affiliated Hospital
Sun Yat Sen University of Medical Sciences
58 Zhongshan Er Road
Tel: 775-5766 Fax: 776-6335
A special medical clinic for foreigners opened in July, offering better service, but at a higher price, than the rest of the hospital. 80-100 FEC/night. 40 beds for foreigners.

First Affiliated Hospital of Guangzhou Medical College
151 Yanjiang Road
Tel: 333-7737 Fax: 334-0850
Guangzhou Ju Jiang (Pearl River)
Hospital for Overseas, Hong Kong and Macao Chinese, a clinic within the hospital, has 6 doctors and 18 nurses. The hospital also has a very well-known Respiratory Diseases Institute. Both the hospital and the clinic treat Western patients. $HK80-120/night. 30 beds for foreigners.

Overseas Chinese Hospital
Shi Pai
Tel: 551-6832
In addition to the 30 beds in the foreign ward, 4 beds are reserved for foreigners in each of the 16 departments, bringing the total to about 100 beds for foreign patients. Most patients are overseas Chinese from Southeast Asia but expatriate staff of the Peugeot joint venture also use this hospital. A new Singapore-funded clinic with sophisticated medical equipment is to be completed by summer 1994. 50-95 FEC/night.

Nan Fang Hospital
Mei Hua Yuan, Sha He
Tel: 770-5656 Fax: 770-5656
Affiliated with the First Military Medical University. The hospital's Wai Kiu Ward, a Hong Kong joint-venture foreigner's clinic, opened about 10 years ago. The 3-block, 240-room facility is currently the largest foreign patient clinic in China. The adjacent First Military University campus has a football field that can be used as a heliport in evacuation emergencies. $HK180-275/night. 400 beds for foreigners.

SHENZHEN

■ EMERGENCY CENTERS

Medical Emergency Center of Shenzhen Airport
Tel: 777-6052 Fax: 777-6142
This center has several doctors and nurses looking after people passing through the airport. Their ambulance fleet, which includes a new, fully equipped Mercedes, can provide land transport to the Hong Kong border. No overnight stays.

■ HOSPITALS

Shenzhen People's Hospital
3 Dongmenbei Road
Tel: 553-4469 Fax: 553-3497
This hospital is being used by the French expatriates at the Daya Bay nuclear power plant, but has no separate ward for foreigners. Well-equipped and well-maintained ambulances are available to transport patients as far north as Shantou. $HK300-400/night.

Shenzhen Red Cross Hospital
East Shunguang Road
Tel: 336-7448
The hospital treated about 80 percent of the victims of the highly publicized August toxic-waste fire in Shenzhen. Foreign patients are admitted to the Hong Kong-Macao ward. 200 FEC/night.

Compiled by David Richter

EVACUATION SERVICES

Two major firms have local offices to coordinate evacuation services from China:

Asia Emergency Assistance
Room 1010
China World Tower
1 Jianguomenwai Dajie
Beijing 100004
Tel: 505-3521 Fax: 505-3526

In Hong Kong:
24/F Tai Sang Commercial Building
24-34 Hennessy Road, Central
Tel: 528-9900 Fax: 528-9933
AEA International is the largest assistance company in the Asia-Pacific region. In addition to full-scale evacuation, services include telephone medical consultation and referral; provision of medical equipment; and first aid and emergency training.

International SOS
Suite 438, Kunlun Hotel
Chao Yuan District
Beijing
Tel: 500-3419 Fax: 500-3228 (room 438)

In Hong Kong:
507-8 Kai Tak Commercial Building
317-321 Des Voeux Road, Central
GPO 2981
Tel: 541-6483 Fax: 544-1677
SOS is the oldest assistance company in North America. Services range from telephone consultation and medical, travel, legal, and interpreter referral to full-scale medical evacuation.

Settling the bill

As with most services in China, medical care carries a higher cost for foreigners. Prices vary from $90 for a consultation with a doctor at the International Medical Center to $60 for an overnight stay in a private room (including doctor's fees) at the Beijing Tongren Hospital.

In general, neither clinics nor Chinese hospitals accept insurance. However, most Western insurance companies will reimburse patients for at least a portion of the medical expenses they incur, subject to the particular conditions of the individual's or company's insurance program. The problem, then, is not who ultimately will pay for the treatment, but who will pay on the spot. Most Chinese hospitals will not allow a foreign patient to leave without settling the bill. And, in most cases, credit cards are not accepted. Care providers are afraid—and perhaps rightfully so—that once the patient leaves China, the hospital will have little recourse to collect payment. Cash, therefore, is often the only tender accepted and foreigners usually must pay in Foreign Exchange Certificates (FEC).

For many visitors this presents a big problem, as few travel with enough cash to pay for an extended hospital stay. One way around this problem is to purchase evacuation coverage from an insurer using the services of a medical assistance company such as AEA International or International SOS. Or, visitors may contact the local assistance company office in China directly to apply for membership in an evacuation program. In addition to paying for evacuations, these firms often guarantee payment of medical expenses on behalf of a patient or his insurance company, thereby allowing the patient to leave the hospital when medically appropriate. Some evacuation programs include additional benefits, such as 24-hour hotlines which provide medical advice and referrals.

Outside the major cities

Residents and visitors in China's three largest cities have a number of options to consider should a medical need arise (*see* table). Hospitals outside of the major cities, however, generally do not have equipment or doctors comparable to those found in urban centers. Few are accustomed to treating foreign patients and not many doctors outside of major cities speak English. In the countryside, the best bet is to head for the nearest military hospital, which will usually have adequate facilities.

Many foreign enterprises in China's smaller cities take it upon themselves to ensure proper medical care for their employees and some have come up with unique arrangements. Guangdong's Daya Bay hosts a virtual French city of 1,500 expatriates there to construct and operate a nuclear power plant. With so many workers, the French contractor, Framatone, decided to build a medical clinic staffed by expatriate doctors. AEA International has been contracted to maintain a helicopter on standby in nearby Shenzhen to fly seriously injured patients to Hong Kong. Over the past two years, the helicopter has made about 40 flights, ferrying patients suffering from acute appendicitis to severe fractures.

> Most Chinese hospitals will not allow a foreign patient to leave without settling the bill.

At the Shajiao power station construction site, also in Guangdong Province, the GEC-Alsthom consortium has set up a medical clinic to take care of its workers. This clinic is staffed and managed by a Hong Kong medical service company, which provides a doctor and nurse.

In Hubei Province, French car maker Citroen has set up an agreement with AEA International for "cashless" medical services at hospitals in Wuhan and the town of Xiangfan, where the company plans to produce cars. Citroen employees and their families receive immediate treatment at the participating hospitals simply by showing their membership cards. The medical expenses are guaranteed by AEA, which receives a monthly bill from the hospitals. This bill, in turn, is settled with Citroen's insurance company in Paris.

The Chinese hospitals have been very accommodating and have invited the Citroen expatriates for orientation and social events to familiarize them with the facilities. The Wuhan hospitals have French- and English-speaking doctors specifically assigned to tend to Citroen patients. Citroen has plans to supplement this agreement with its own clinic when the number of expatriates warrants the additional care. In the meantime, AEA has stationed a nurse at Citroen's facilities to handle routine matters.

As these examples show, companies rely on no single formula to provide health care to their employees in China. However, it is clear that they are paying a lot of attention to this question.

Treating local staff

Foreign companies are also exploring ways to provide adequate medical coverage for their local employees. As the level of training and investment in local staff rises and the number of companies relying on locals to fill positions grows, concerns about medical options for local workers are growing. While visa problems make it impractical to evacuate local employees to Hong Kong or Japan, workers can be transported to better medical facilities within China. This is particularly true for companies that have local engineers working in remote areas.

Most medical clinics set up by joint-venture manufacturing operations are designed to take care of all employees, local and foreign alike. While Chinese medical treatment is sometimes provided, most focus on Western-style care giving. Increased attention is also being paid to occupational health questions, such as better workplace lighting, scheduled breaks, and exercise programs. Companies are also looking into first-aid training for both expat and local staff members.

While the overall level of medical care available in Chinese cities is rising quickly, there is still a long way to go before expatriates will feel they receive the same standards of care they do at home. In the near term, Chinese hospitals may get more expensive as their facilities improve and China's economy develops, though foreign clinic prices may actually decline thanks to increased competition. As Chinese hospitals and foreign companies focus on health issues, care for expatriate workers and foreign travelers in China should continue to improve. 完

Damming the Counterfeit Tide

■ Joseph T. Simone, Jr.

New laws promise foreign trademark owners much-needed protection

■ Joseph T. Simone, Jr., an American attorney with the Hong Kong law firm Johnson, Stokes & Master, advises on intellectual property law and investment in Greater China.

Foreign investors and traders have come to regard violation of their intellectual property rights (IPR) as an inevitable part of doing business in China. IPR infringements are increasing in both number and degree—at a rate that is easily keeping pace with the growth of the Chinese economy. Fake foreign and Chinese goods can be readily observed in markets throughout the country. Recently, exports of Chinese-made fakes even prompted public comments from Vice Minister Zhu Rongji and other high-level officials.

Over the past three years, the Chinese government has taken major steps to plug some of the obvious gaps in its IPR legislation. If this new legislation is adequately enforced, government and industry should be able to create effective deterrents to piracy and begin rolling back the tide of fakes.

Cracking down

China's recent moves to improve its IPR regime are partly motivated by pressure from the US government—specifically the threat of trade sanctions allowed under the United States' "Special 301" legislation. Imposition of such sanctions has been forestalled by the January 1992 Memorandum of Understanding (MOU) signed between the office of the US Trade Representative (USTR) and the Ministry of Foreign Economic Relations and Trade (MOFERT, now known as MOFTEC, or Ministry of Foreign Trade and Economic Cooperation) (*see The CBR*, March-April 1992, p.9).

The MOU set forth a timetable for legislative action which the Chinese have for the most part respected, although it seems Beijing has not yet made good on obligations to increase transparency in the publication and distribution of administrative rules relating to IPR and to mobilize customs authorities to investigate and seize shipments of fake goods.

As agreed in the terms of the MOU, China issued copyright regulations that raise the minimum level of protection for software and other works to international standards and revised its patent legislation in 1992. In February 1993, the Standing Committee of the National People's Congress also approved amendments to several clauses of the 1982 Trademark Law and issued the Supplemental Regulations on Punishment for Counterfeiting of Registered Trademarks (the Counterfeiting Regulations). The amendments bolster provisions in China's 1979 Criminal Code that impose criminal responsibility for trademark infringements. This new legislation entered into effect on July 1. On July 9, the State Council approved corresponding changes to the Trademark Law's Implementing Rules, which became effective July 28.

Most recently, on September 2, 1993, the Standing Committee adopted the Anti-Unfair Competition Law, which pro-

vides legal protection for unregistered trademarks, trade names, product packaging, and trade dress. This law also provides new protection for trade secrets and outlaws other unfair trading practices, such as selling products below cost, paying bribes in the form of hidden commissions, and procuring favors from government personnel to obtain advantages over competitors (*see* p.56).

The Anti-Unfair Competition Law

The Anti-Unfair Competition Law enters into effect on December 1, 1993, one month before the deadline agreed to by both sides in the MOU. The new law prohibits a wide range of activities that previously were regarded as actionable under the General Principles of the Civil Code and other vaguely worded administrative regulations, but which were rarely litigated due to the uncertainty over how judges would handle such claims.

Article 5 of the law clearly prohibits the unauthorized use of "unique" (*te you*) names, packaging, and trade dress products that are "famous" (*zhi ming*). In order to be actionable, the offending name, packaging, or trade dress must be sufficiently similar so that consumers will mistake the fake for the genuine item.

The reference to protection of "unique" names appears to apply to trademarks that have not been registered with the Trademark Office and which are therefore unprotected under the Trademark Law. The terms "packaging" (*bao zhuang*) and "trade dress" (*zhuang kuang*) refer to distinctive packaging designs and product labels.

Since none of these items has until now been explicitly protected under the law, Chinese officials, manufacturers, and distributors have generally assumed that imitations are acceptable—particularly when the similarity between products is not enough to cause widespread confusion among consumers. Several years of education and active enforcement of the new law may therefore be necessary before internationally accepted norms of behavior in this area are widely understood and respected.

The Anti-Unfair Competition Law does not explicitly address cases in which a competitor has intentionally imitated a name or packaging design that does not cause consumer confusion, but that dilutes the distinctiveness of the original product. This type of imitation causes subtle, but nevertheless substantial, damage to the economic value of trademarks and packaging designs. Foreign companies must hope the People's Courts and other administrative enforcement authorities will follow the pattern in other countries and, as a practical matter, regard the obvious intent of the imitator as evidence of wrongdoing.

An unregistered mark or trade dress must be "famous" to enjoy protection.

In other countries, many packaging designs and labels are protectable under copyright laws, as well as under unfair competition and trademark legislation. The same appears to be the case, at least in theory, under China's new copyright regime. The Copyright Law itself should protect promotional language and instructions for use that appear on the labeling of imitated products.

Meanwhile, regulations issued by the State Council in September 1992 explicitly protect foreign (but not Chinese) works of "applied art" for 25 years from their creation. Applied art covers artistic creations attached to or integrated with functional objects, and the term theoretically could be interpreted by a People's Court or the National Copyright Administration (the body responsible for administrative handling of infringement disputes involving foreign works) to cover some packaging designs. However, no guidelines or case precedents confirming the protectability of either labelling or packaging designs under copyright have yet been issued.

The Anti-Unfair Competition Law also prohibits the use of other parties' business names, certification, quality marks, or registered trademarks, and precludes various types of false advertising. Other Chinese legislation already prohibits these practices, but if actions are brought under the new law, enforcement through the People's Courts might eventually become more predictable and rigorous.

As with all of China's other IPR legislation, the Anti-Unfair Competition Law confers concurrent jurisdiction to both the People's Courts and designates administrative authorities to handle disputes. Decisions issued by the administrative authorities are subject to review by the courts, and, under trademark and unfair competition legislation, cases designated as "serious" may also be taken up for criminal prosecution by the People's Procurates.

The Anti-Unfair Competition Law will inevitably create some confusion among IPR owners as to which administrative authorities to approach in the event of infringements. The economic supervision and inspection departments of the local Administration for Industry and Commerce (AICs) are the authorities designated to handle infringements listed under the new law—including copying of trademarks, trade dress, packaging designs, trade names, etc. However, the jurisdiction of these authorities overlaps somewhat with that of the AICs' trademark and advertising departments, which have taken primary responsibility for handling infringements of registered trademarks. Although the economic supervision and inspection departments have also assisted with or taken direct responsibility for a significant portion of such infringements, the Anti-Unfair Competition Law does not deal directly with the issue of concurrent jurisdiction, suggesting that the inspection departments will retain the authority to deal with all infringements, while the trademark and advertising departments will continue to deal only with infringements of registered marks.

New questions

Article 5 of the Anti-Unfair Competition Law raises a number of interpretational questions on whether all, or only a portion, of the disputes over unregistered trademarks and trade dress will be actionable after December 1. For instance, an unregistered mark or trade dress must be "famous" to enjoy protection. But to be regarded as famous, must a plaintiff's product be known throughout China, or only in the region where the fake is being sold? Will modest sales or advertising in China be acceptable proof of fame? Will

bottle designs, such as the ones used by Coca Cola or Remy Martin, be protectable, and if so, under what conditions? Will plaintiffs be required to prove that actual consumer confusion has occurred or merely that confusion is possible?

The State Council has not yet indicated whether implementing rules or guidelines will be issued to address these and other interpretational issues. The absence of such rules creates a sense of uncertainty that will deter many IPR owners from bringing actions under the new law, thereby delaying the establishment of norms of reasonable market behavior.

Tougher sanctions

The fines and compensation standards provided under the Anti-Unfair Competition Law appear more rigorous than those under the revised Implementing Rules to the Trademark law (*see The CBR*, July-August 1988, p.49). Article 21 of the new law indicates that the AICs' economic supervision and inspection departments may impose fines one to three times the infringer's "unlawful income." The Chinese term used for "income" (*suo de*) could mean either gross income or profit. If interpreted as gross income, the maximum fine under the Anti-Unfair Competition Law would be six times greater than that provided under the Trademark Law.

Under such a scenario, infringements of unregistered trademarks and trade dress—which until recently were virtually unactionable—would be subject to fines substantially greater than those that may be imposed for infringements of registered trademarks. It is therefore probably safe to assume that in this context *suo de* refers to profit rather than gross income.

Unlike the Trademark Law, the Anti-Unfair Competition Law does not permit AICs to order infringers to pay compensation; IPR owners seeking compensation must bring separate actions to the People's Courts. Article 20 of the new law does contain an innovation, however: plaintiffs are permitted to seek compensation for expenses incurred to investigate the infringer's illegal activities.

It remains unclear whether such expenses may include fees paid to the foreign and Hong Kong investigative firms that currently perform many of the significant infringement investigations in China, and whether the People's Courts and trademark departments of the AICs will now issue awards of investigation expenses in infringement actions brought under the Trademark Law. Revisions to the Trademark Law made earlier this year were intended in part to bring the legislation further in line with the Paris Convention, to which China acceded in 1985, but also to address the increasing levels of trademark piracy and to rationalize some of the procedural aspects of prosecution of trademark infringement.

Protecting service marks

The Paris Convention requires China to protect service marks; introduction of these marks into the Trademark Law has been universally regarded as the best way to provide this protection. Under China's revised Trademark Law, service marks that can be registered and protected include word marks and logos used in banking, aviation, consulting, hotels, restaurants, photography, educational activities, and other areas listed in the World Intellectual Property Organization (WIPO) International Classification of Goods and Services. China's Trademark Office began accepting applications for registration of service marks in July.

Unfortunately, the Trademark Office will not yet accept applications to register service marks used by retail establishments and trading companies in China, due to fears of a large number of conflicts among Chinese retail and trading companies. Since 1949, national and local regulations have allowed such companies in different cities and counties to adapt and use identical trade names. The Trademark Office is currently examining proposals for dealing with such conflicts and may introduce registration for such marks within the next two years. In the meantime, service marks covering retail and trading business may enjoy some level of protection under the Anti-Unfair Competition Law and under regulations issued in 1991 that permit the registration and protection of enterprise names (*see The CBR*, July-August 1992, p.10).

New fines...

The new Implementing Rules substantially increase the administrative fines that AIC trademark departments may impose for infringement of registered trademarks. Article 43 now allows the trademark departments of the local AICs to impose fines on trademark infringers either up to 50 percent of the "illegal turnover" (*feifa jingying e*) realized from sales of infringing items or up to five times the infringer's profits. Under the earlier rules, the maximum fine was only 20 percent of turnover or two times the illegal profit.

The revised rules provide for fines up to ¥10,000 ($1,800) against individual employees who are directly responsible for infringements committed by their enterprises. Although this maximum fine appears quite modest, the prior rules failed to provide for any such fine.

The revised rules also contain provisions concerning the destruction of infringing goods which should increase the overall deterrent value of the Trademark Law. The prior rules only permitted destruction of infringing "trademark representations," meaning the stickers, labels, or other printed representations bearing the trademark. In most contexts, the offending trademark can easily be separated from the product. For example, if the offending trademark appeared on a

China Business Service

Document Translation
... feasibility studies, business contract, financial report, product catalogs, brochures, technical manuals ... ...
35-mm Color Slides & Overheads
... put the beautiful, true-type Chinese fonts in your presentations
Oral Interpretation Assistance
... look who we have served:
Bechtel Group, Inc.
SOM architecture firm
NYC City Planning Dept.
Dover Corporation
Wang's International ... ...
Professional & Fast Turnaround !

Please fax to 901-324-5856
or call us at 901-324-3623
InterNet Co.
3602 Spottswood, Suite 2
Memphis, TN 38111

美中经贸服务

cloth label attached to a shirt, the authorities might require only that the labels be cut off and order that the shirts be returned to the infringer. Destruction of the clothing would have been regarded as wasteful and was not permitted under the old rules.

The new Implementing Rules now permit the local AICs to order destruction of the non-infringing goods themselves when "other penalties are insufficient to prevent other infringing behavior." This condition presumably covers cases in which the authorities do not have enough documentary evidence to levy significant fines. Such cases represent the norm rather than the exception, as counterfeiters are usually smart enough to do business without generating contracts or other documents that might indicate sales revenues or profits. The AICs normally require such documentation in order to provide a clear and objective basis for imposing fines.

Although the increased level of fines and the new provision concerning the destruction of non-infringing goods are welcome moves, many lawyers had hoped that the State Council would increase the maximum fines to even higher levels and that fines would be doubled or tripled against repeat offenders or infringers who act with intent. These criticisms may be muted to some extent when trademark owners bring disputes in regions that have adopted local anti-counterfeiting regulations. For example, Guangzhou issued regulations in 1992 which provide for fines up to 100 percent of illegal turnover, and similar regulations are reportedly being formulated to cover all of Guangdong Province.

...and criminal sanctions

Of course, the deterrent power of prison greatly exceeds that of administrative fines. As China's counterfeiting problem grows more serious, many Chinese and foreign companies believe that greater involvement by the People's Procurates (public prosecutors) in trademark matters is both warranted and necessary to bring IPR infringements under control.

Until now, limited resources and the perception that trademark violations are not a priority vis-a-vis other crimes have led procurates to investigate trademark cases only in situations in which the product concerned posed a risk to public health, such as those involving food and drugs. However, the new Counterfeiting Regulations seek to expand the scope of cases that may be pursued by the procurates to those involving large illegal turnover. Moreover, the regulations substantially increase the maximum prison term from three to seven years in cases in which illegal turnover is "enormous." The Counterfeiting Regulations also explicitly extend criminal responsibility beyond manufacturers to distributors who knowingly deal in fakes. Procurates had previously interpreted the 1979 Criminal Code as imposing liability solely on manufacturers.

Unfortunately, the Supreme People's Procurate has not yet made public the precise standards under which local procurates may undertake criminal investigations into counterfeits under the Counterfeiting Regulations. Even after such standards are published, local procurates will likely retain a great deal of discretionary power over which cases to pursue. The procurate departments responsible for trademark matters are also responsible for investigating other economic crimes, including corruption by government officials. Given the massive increase in such cases, it is doubtful that local procurates will be able to fulfill the spirit of the Counterfeiting Regulations.

Pointing the way to a possible solution to this problem, the Tianjin procurate's office last year appointed an official who has since worked exclusively on counterfeiting matters. Foreign trademark owners have now begun calling for the establishment of separate procurate office departments devoted solely to the handling of IPR infringements in other cities as well.

Assuming infringers' fears of criminal prosecution increase, trademark owners with plenty of evidence in hand should find it easier to negotiate settlements with infringers, even if a complaint has not yet been filed with the local AICs or procurates. In 1992, for example, the Singer Co. successfully negotiated a set-

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tlement and obtained hundreds of thousands of dollars in compensation from a large Chinese trading company caught exporting over $1 million in counterfeit sewing machines to the Middle East. In this case, the managers of the infringing enterprises were afraid not only of losing their jobs, but of criminal sanctions as well. This fear was no doubt reinforced during the settlement negotiations by the appearance of newspaper articles that publicized a meeting of trademark officials who were studying the need to increase the number of criminal actions against counterfeiters.

New Protection for Trade Secrets

The PRC's new Anti-Unfair Competition Law, which enters into effect on December 1, 1993, includes two clauses concerning the protection of trade secrets. These provisions should provide companies with significantly greater protection for their business information and non-patented technology. Previously, foreigners could guarantee protection of their trade secrets only by entering into written contracts that specifically required other parties to keep information confidential. Little or no recourse was available against third parties who received such information.

Article 10 of the new law defines trade secrets (*shangye mimi*, or literally, "commercial secrets") to include both "technical information" (*jishu xinxi*) and "business information" (*yewu xinxi*) that meet the following four criteria:

- The information is not already known to the public
- The proprietor is able to derive economic gain from the information
- The information possesses the quality of "practical utility"
- The proprietor has adopted "measures to protect" the information

Activities that constitute infringement of trade secrets include:

- Use of improper means, such as stealing or threatening, to obtain trade secrets
- Revelation or use of trade secrets or allowing others to use improper means to obtain trade secrets
- Violation of a contract or the "requirements" (*yaoqiu*) of the proprietor of a trade secret by revealing, using, or allowing others to use trade secrets
- Use or review of trade secrets by a third party who knows or ought to know the secrets were obtained through improper means

The term "requirements" in the third item above leaves open to question whether such requirements must be specified in writing, can be dictated orally, or may be implied under the circumstances—that is, without any explicit oral or written communication. If the Chinese interpret the term in accordance with international practice, it should cover a broad range of implied circumstances.

The new Anti-Unfair Competition Law entrusts the economic supervision and inspection departments of the local Administration for Industry and Commerce (AICs) to investigate and deal with trade secret infringement cases. Article 25 of the new law gives the AICs the power to issue injunctions and fine infringers between ¥10,000-200,000 ($1,800-36,000). The People's Courts also have jurisdiction over trade secret cases, although they are unlikely to be as responsive as the AICs in conducting investigations. In light of the novelty of trade secret law in China, however, it might be some time after the new law enters into effect before the AICs are prepared to assume a full load of cases.

The State Administration for Industry and Commerce (SAIC) may issue implementing regulations to the new Anti-Unfair Competition Law that would clarify a number of procedural and interpretational issues, including those surrounding the use of trade secrets by employees. If the SAIC fails to issue such rules, some guidance may ultimately be derived from SAIC notices and guidelines, as well as decisions issued by the People's Courts. However, under China's civil law system, court decisions—except for those issued by the Supreme People's Court—have no precedential value. Accordingly, most court decisions are likely to have only limited influence in future trade secret and other IPR disputes in China.

—Joseph T. Simone, Jr.

Limits on liability

While many of the changes in China's new IPR legislation may be criticized for being insufficiently bold, only one change can be characterized as a clear and significant step backward in the fight against counterfeits. Article 38 of the new Trademark Law now limits liability for infringement to distributors who sell products "with clear knowledge" that they are infringing. This new standard could severely weaken the deterrent power of the Trademark Law against retailers and wholesalers of fakes by precluding the imposition of fines and the payment of compensation to trademark owners.

In response to criticism from various quarters, the State Council attempted to reduce the negative impact of this article by expanding the definition of "other" infringements provided in the Implementing Rules. Article 41 of the rules now defines such infringements to include "distributing goods which one clearly knows or *which one ought to know* infringe the exclusive rights of another in a registered trademark."

The rules fail to define this new implied knowledge standard, although it is hoped that the Trademark Office will issue regulations that interpret the standard broadly to cover situations in which fake products are sold without receipts or in which the trademark owner has previously published advertisements or distributed product packaging in the region where the infringing distributor is located.

Despite the attempt by the State Council to ameliorate the impact of Article 38 of the new law, courts and AICs in some of the more protectionist regions, such as Shantou and Fujian, will likely interpret the implied knowledge requirement conservatively, to the detriment of trademark owners.

Compensation for trademark infringement

Aside from fines, destruction of infringing goods, and prison terms, another key

method for deterring future infringements is to force infringers to pay compensation to trademark owners. However, with rare exception, foreign trademark owners have been unable to obtain compensation through either the AICs or the People's Courts, or through negotiated settlements. As noted above, the AICs have the authority to order infringers of registered trademarks to pay compensation to trademark owners. However, they rarely exercise this authority due either to protectionist sentiments or to frustration over the lack of regulatory guidelines for establishing the amount of compensation.

Some trademark owners have long seemed convinced that the effort and expense in taking actions to the People's Courts outweigh possible compensation rewards. Perhaps the two factors contributing most to this perception are the high cost and questionable effectiveness of hiring professional investigators and lawyers. To take actions for compensation to court, the trademark owner normally must have documentary evidence of both the turnover and profits of the infringer, information crafty infringers keep well hidden. Assuming such documents exist, the cost of using private agencies to conduct these investigations can be prohibitive—rates for most Hong Kong-based firms range from $800-1000 per day. Moreover, the time required for pursuing enquiries in China is often much greater than in other areas due to the country's size and inefficient transportation system.

Until this year, there were no domestic private investigation firms to take on IPR infringement cases in China. Five such firms were recently established in Beijing and Guangzhou, however, but their effectiveness and billing practices remain largely untested.

Fighting piracy at the registry

The revised Trademark Law and Implementing Rules reinforce the right of trademark owners to file opposition and cancellation actions against objectionable marks that have been preliminarily approved or registered by the Trademark Office. Making it easier for trademark owners to defend their marks at the registry should ultimately deter trademark pirates from pilfering foreign marks. Over the last few years, Taiwan and Hong Kong companies have been particularly active in attempting to register marks which are famous abroad, but not yet well known in China.

Article 27 of the Trademark Law now permits the filing of cancellation actions when a party has used "deceptive or other improper means" to obtain registration. Article 25 of the rules defines this term as covering a number of scenarios, including cases in which the registrant has committed forgery or failed to disclose facts in its original applications. Other scenarios are ones in which the registrant is an "agent" of the actual trademark owner and applied for registration of the mark without authorization; obtained registration through "other improper means"; or violated the "principle of good faith" *and* "copied, imitated or translated another party's trademark which is widely known to the public (*gonggong shuzhi de*)."

This last provision seems unnecessarily restrictive and unfair, particularly to foreign trademark owners. After all, if a pirate has applied to register another party's trademark in clear bad faith, what

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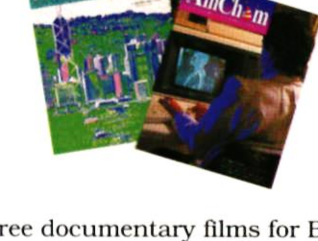

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- ★ Herbert Stein, Senior Fellow at the American Enterprise Institute
- ★ Walter B Wriston, former Citicorp chairman and Reuters board member
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legitimate policy objectives are served by imposing additional conditions for canceling the pirated mark? The requirement that a mark be "widely known to the public" in order to enjoy protection could be regarded as an invitation to trademark traffickers—unless of course the "public" is defined as consumers outside, and not just inside, China.

Appeals to TRAB

IPR lawyers were disappointed by the failure of the revised Trademark Law to allow appeals to the People's Courts of decisions issued by the Trademark Review and Adjudication Board (TRAB). An administrative organ comprised of officials who are loosely associated with the Trademark Office, the TRAB operates pursuant to unpublished regulations and extends few procedural safeguards to trademark owners.

For example, applicants have no explicit guarantee that evidence they submit will remain confidential. In addition, the TRAB will not permit applicants to receive copies of arguments and evidence submitted by adversaries, thereby precluding them from addressing all relevant factual and legal issues. These and other problems with the TRAB's operations are due in part to its heavy case load and limited material and staff resources. However, such shortcomings would clearly be more palatable to trademark owners if TRAB decisions were subject to appeal by the courts, where procedural safeguards presumably would be greater.

The lack of judicial appeal opportunities in trademark opposition and cancellation actions has led to an intense concentration of power in the TRAB. As a result, Chinese lawyers depend to an unhealthy degree on *guanxi* (relationships) with TRAB officials to represent their clients' interests. Furthermore, local courts and AICs are generally reluctant to issue preliminary injunctions in cases in which the infringer has succeeded in obtaining registration or preliminary approval for its mark—regardless of whether confusion is being caused in the market. Consequently, infringers may continue to sell their products until the TRAB issues its final decision—a process that often takes one to three years.

For better or worse

Counterfeiters both inside and outside China have had little to fear from China's existing IPR legislation and enforcement regime. The Chinese government, however, has begun to take up the challenge posed by these counterfeiters by issuing new legislation that has the potential to introduce real deterrence into the market. For these laws to have any real impact, however, the Chinese government must devise programs and new implementing regulations that will permit effective enforcement of all forms of intellectual property rights.

At the same time, foreign IPR owners must accept that the challenge of defending their rights in China is as great as the potential of the country's market. Resources must therefore be expended carefully and strategically in all major arenas, including investigations; infringement actions filed with the AICs, the People's Courts, and the procurates; and consultations with governments, industry groups, and companies that suffer similar problems. 完

Registering an FIE Trademark

The revised Trademark Implementing Rules still require foreign trademark owners—including foreign-invested enterprises—to handle trademark applications and "other trademark matters" through government-approved trademark agencies located in Beijing, Shanghai, and Hong Kong.

Foreigners can choose from among five such agencies, most of which are now deluged with application and infringement work. Given their exclusive position, these firms are able to charge fees of between $100-200 per hour, double the rates normally charged by PRC law firms. By comparison, domestic trademark owners may choose from over 50 agencies set up around the country over the past two years. Most of these new agencies have been established by retired officials of the local Administrations for Industry and Commerce (AIC). They appear to have taken over much of the consulting work previously provided at no charge by the AICs.

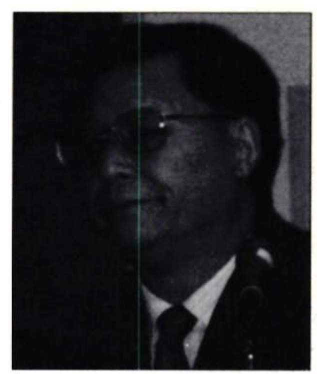
A number of foreign trademark owners with established joint ventures have licensed the ventures not only to use their trademarks, but to take a lead role in investigating and filing infringement actions against counterfeiters. In many cases, these joint ventures bypass the five official agents and file complaints directly with the AICs or through local lawyers or domestic trademark agencies, thereby incurring significantly lower expenses. Although not explicitly prohibited by law, these practices are not encouraged by the Trademark Office and have in the past led to delays in enforcement.

Under the new rules, trademark licenses must now be recorded with the Trademark Office within three months after they are issued. If the application to record has not been filed by this deadline, the local AIC in the region of either the licensor or the licensee may impose a new deadline. If no application is filed before this second deadline, the local AICs may seize representations of the trademark and, "based on the circumstances," either impose a fine of up to ¥50,000 ($9,000) on the licensor or submit a request to the Trademark Office to cancel the licensed trademark registration.

Foreign companies often vest ownership of their corporate trademarks in holding companies which license the use of marks in written or unwritten agreements to sister companies. Both the new and the old texts of the Trademark Law fail to clarify whether a foreign company must register licenses between related subsidiaries located outside China. However, under the new procedures set forth in Article 35 of the Implementing Rules, it seems extremely unlikely that the AICs or Trademark Office would be in a position to demand such registrations.

—Joseph T. Simone, Jr.

Power Minister Shi Discusses Opportunities for US Firms



Council members had an opportunity to meet with Power Industry Minister Shi Dazhen and other ministry officials at a September 20 seminar and reception sponsored by the US-China Business Council, the Department of Commerce (DOC), and the Department of Energy (DOE). At the seminar, Shi discussed China's plans to accelerate development of its electric power capacity and opportunities for US business in the sector. The minister then fielded questions from industry representatives for over an hour.

Jack Siegal, DOE deputy assistant secretary for coal technology, outlined his agency's efforts to promote US involvement in China's energy sector and indicated that the US government is reviewing its policy on balance-of-plant sales to nuclear facilities in China. Don Forest, director of DOC's Office of China, Hong Kong, and Mongolia, noted that the US and Foreign Commercial Service is planning to get involved in several electric-power trade promotion activities over the next year. The delegation's visit was a follow up to a DOE mission to China in June (*see* p.6).

Export Controls Working Group Eyes TPCC Report

At the Council's Export Controls Working Group meeting on October 7, computer industry officials declared themselves pleasantly shocked by the computer control threshold increases proposed by the Clinton Administration's Trade Promotion Coordinating Committee (TPCC) (*see* p.5). "The new control levels are higher than anything we expected," Digital Equipment Corp.'s Bob Rarog, the group's co-chair, told the 18 company representatives gathered at the Council's Washington office. Telecom company representatives were less enthusiastic about the report, however, as it contained no breakthrough proposals for easing restrictions on telecommunications equipment.

Overall, Working Group members agreed that the TPCC report represents a step in the right direction and believe the Administration will follow through on report recommendations. At the same time, group members stressed that industry must remain united and continue to press for greater relaxation of control levels for machinery and telecommunications equipment. Members also stated that Coordinating Committee for Multilateral Export Controls (COCOM) reform efforts need to be watched closely.

The group decided to draft a Council letter to the Clinton Administration recommending that the United States not differentiate between China and other COCOM-proscribed nations when deciding export-control policy. The letter will also request that the criteria for membership in COCOM's successor regime be spelled out and that these criteria not link export controls to human rights issues. Group leaders plan to present the letter to Administration officials in November.

West Coast Briefings Examine Bilateral Issues

US-China political relations were on the minds of many of the more than 250 company representatives who attended a series of Council briefings in Seattle, Los Angeles, and San Francisco the first week of October. Speaking on the current trends in US-China relations and the implications for US trade and investment, Council President Donald M. Anderson and Director of Business Advisory Services Richard Brecher described the situation as generally upbeat, despite lingering concerns over renewal of China's Most Favored Nation (MFN) status and China's impending leadership succession. The impact of China's current austerity program on the country's economy was the other major topic of interest to briefing participants.

All three sessions underscored that US business appears to be entering an era of more profound involvement in China. The number of companies interested in China business has increased dramatically in the past two years and many US companies already in China are branching out into new areas. Such plans indicate that despite weaknesses in China's business climate and the uncertain US-China political relationship, business will continue to be the strongest link between the two countries in the near future.

■ Colin Thomas

The following tables contain recent press reports of business contracts and negotiations exclusive of those listed in previous issues. For the most part, the accuracy of these reports is not independently confirmed by *The CBR*. Contracts denominated in foreign currencies are converted into US dollars at the most recent monthly average rate quoted in the International Monetary Fund's *International Financial Statistics*.

Firms whose sales and other business arrangements with China do not normally appear in press reports may have them published in *The CBR* by sending the information to the attention of the editor of *The CBR*.

SALES AND INVESTMENT THROUGH August 20, 1993
Foreign party/Chinese party Arrangement, value, and date reported

Accounting and Insurance

INVESTMENTS IN CHINA

Sedgwick Group (Britain)
Formed Sedgewick Insurance and Risk Management Consultants to provide advice to joint and wholly foreign-owned ventures in China. 7/93.

Agricultural Commodities and Technology

INVESTMENTS IN CHINA

Universal Leaf Tobacco Co. (US)/(NA)
Formed joint venture in Anhui Province to process tobacco for export. 7/93.

OTHER

Asian Development Bank
Will provide technical assistance grant to study fertilizer marketing and distribution of systems. $183,000. 7/93.

Banking and Finance

CHINA'S INVESTMENTS ABROAD

Agricultural Bank of China
Opened its first office in Singapore. 7/93.

China Resources Holdings/Hong Kong Chinese Bank
Will acquire additional 35 percent stake in bank. $65.8 million. 7/93.

OTHER

Diners Club International (HK)/PBOC
Will cooperate on foreign-exchange services. 7/93.

Abbreviations used throughout text: BOC: Bank of China; CAAC: Civil Aviation Administration of China; CAIEC: China National Automotive Import-Export Corp.; CATIC: China National Aero-Technology Import-Export Corp.; CITIC: China International Trust and Investment Corp.; CITS: China International Travel Service; CNOOC: China National Offshore Oil Corp.; ETDZ: Economic and Technological Development Zone; ICBC: Industrial and Commercial Bank of China; MPT: Ministry of Posts and Telecommunications; NA: Not Available; NORINCO: China North Industries Corp.; P&T: Post and Telecommunications; PBOC: People's Bank of China; SEZ: Special Economic Zone; SINOCHEM: China National Chemicals Import-Export Corp.; SINOPEC: China National Petrochemical Corp.; SINOTRANS: China National Foreign Trade Transportation Corp.; SPC: State Planning Commission; UNDP: United Nations Development Program.

Chemicals, Petrochemicals, and Related Equipment

CHINA'S IMPORTS

Tuntex Group (Taiwan)/NA (Xiamen)
Will sell equipment to a chemical fiber factory. $52 million. 7/93.

INVESTMENTS IN CHINA

Chugoku Marine Paints Ltd. (Japan)/NA
Plans to form joint venture to produce and sell shipping paints in Shanghai. 8/93.

PPG Industries (US)/Lianyungang Chemical Fertilizer Co. (Jiangsu)
Will form joint venture to produce silicates. 7/93.

Toa Group Co. Ltd. (Thailand)
Will invest in three paint plants in China. $18 million. 7/93.

Vista Chemical Co. (US), ABB Lumus Crest Inc. (US), Snamprogetti (Italy)/CNCCC, Jilin Chemical Group Corp.
Will build alpha-alcohol plant in Jilin. 7/93.

Monsanto Co. (US)
Will open wholly foreign-owned enterprise in Shanghai. 7/93.

Consumer Goods

INVESTMENTS IN CHINA

Mitsubishi Heavy Industries (Japan)/NA
Will form joint venture in Shandong Province to produce air conditioners. 8/93.

South China Holdings Ltd. (HK)/Tianjin Leather Shoe Group
Formed Tianjin Jingang Holdings Ltd. to manufacture leather goods. $35.55 million. (HK:51%-PRC:49%). 7/93.

(NA) South Korea/(NA) Shandong
Formed Weihai-South Korean International Commercial Trade Centre to sell South Korean-made goods. 7/93.

Young Chang Akki Co. (S. Korea)/Sanhuan Industry Corp.
Will form Tianjin Young Chang Akki Corp. to produce pianos in Tianjin. $29.8 million. (S.Korea:85%-PRC:15%). 7/93.

OTHER

Philip Morris International Inc. (US)/China National Tobacco Corp.

Signed agreement to produce Marlboro cigarettes in China. 8/93.

Electronics and Computer Software

INVESTMENTS IN CHINA

Matsushita Electric Industrial Co. (Japan)/Shanghai Battery Factory

Formed Shanghai Matsushita Battery Co. to produce and market batteries in China. 8/93.

Singapore National Printers (Singapore)/Handan Laser Holographic Photo Picture Factory (Hebei)

Formed Handan New Century Laser Holographic Images Co. Ltd. to produce laser holograms for commercial and security purposes. (Singapore:30%-PRC:70%). 8/93.

System Software Associates (US)

Opened a wholly foreign-owned enterprise in Beijing to expand company's China activities. 7/93.

Toshiba Corp., Mitsui & Co. Ltd. (Japan)/Shanghai Novel CPT Co. Ltd.

Formed Shanghai Xinzhi Electronics Ltd. to produce shade masks for color television tubes in Shanghai. $49.9 million. 7/93.

CHINA'S INVESTMENTS ABROAD

SINOPEC/Convex Computer Corp. (NA)

Established a seismic data-processing center in Singapore. 7/93.

Engineering and Construction

INVESTMENTS IN CHINA

Hutchison Whampoa (HK)/Shanghai Harbor Authority

Formed venture to modernize harbor facilities. $982 million. 8/93.

(NA) Hong Kong, (NA) Singapore/(NA) Shanghai

Formed Shanghai Third Navigation ASP Pipe Ltd. to produce steel pipes in the Pudong New Area. $8.58 million. 7/93.

Siu-Fung Group (HK)/Handan Ceramic Group (Hebei)

Will form four joint ventures to build four separate factories to produce exterior wall tiles in Hebei Province. $87.1 million. (HK:50%-PRC:50%). 7/93.

Food and Food Processing

INVESTMENTS IN CHINA

Bama Pie Ltd. (US)/Hong Xing Co.

Opened joint venture facility to produce apple pies for McDonald's restaurants in China and South Korea. $1.1 million. (US:90%-PRC:10%). 8/93.

Kerry Beverages, a joint venture between subsidiaries of Coca-Cola Co. (US) and Kerry Group (HK)/Shenyang Bawangsi Beverage Factory

Will produce Coca-Cola products and other soft drinks. $26 million. (US/HK:60%-PRC:40%). 7/93.

Sino-American Axess Corp. (US), Southern Touch Inc. (US)/Yin Feng Fruit Juice and Beverage Co. (NA)

Formed Sino-American Golden Touch Corp., Ltd. to build and operate apple-juice concentrate plant in Shandong Province. (US:70%-PRC:30%). 7/93.

Foreign Trade Agreements

Burma/China

Signed six agreements regarding cooperation in light industry and construction. 7/93.

Machinery and Machine Tools

INVESTMENTS IN CHINA

Electrolux Components Compressors Group (Italy)/Tianjin Haihe Refrigerator and Compressor Corp.

Formed Zanussi Eletromeccanica Tianjin Compressor Co. to produce refrigerator compressors. $60 million. 8/93.

Linde AG (Germany)/Xiamen Fork Lift Truck Plant (Fujian)

Formed Linde-China Material Handling Corp., Ltd. to produce forklifts. $95.7 million. (Germany:55%-PRC:45%). 7/93.

Metals, Minerals, and Mining

CHINA'S IMPORTS

Gwalia Consolidated (Australia)/National Nonferrous Metals Import-Export Corp.

Will sell 60,000 tons of lithium concentrates over next three years. $6.1 million. 8/93.

INVESTMENTS IN CHINA

Advanced Materials Resources Ltd. (Canada)/Jiangsu Yixing State-Owned Rare Earth Factory

Established venture to process ion absorption clays. $7.2 million. (Canada:70%-PRC:30%). 7/93.

Advanced Materials Resources Ltd. (Canada)/Shandong Zibo Rare Earth Factory

Formed venture to produce high-quality light rare earths. $5.15 million. (Canada:80%-PRC:20%). 7/93.

CHINA'S INVESTMENTS ABROAD

China National Gold Corp./NA (Madagascar)

Will jointly mine for gold & precious stones. 7/93.

Medical Equipment and Devices

INVESTMENTS IN CHINA

Behringwerke AG (Germany)/China National Biological Products Corp., National Vaccine and Serum Industry (Beijing)

Will produce blood plasma in Beijing. $80 million. 7/93.

The Upjohn Co. (US)/No.4 Suzhou Pharmaceutical Factory

Formed Upjohn Suzhou Pharmaceutical Co. to produce antibiotics and steroids. $30 million. (US:75%-PRC:25%). 7/93.

OTHER

World Bank

Approved loan to improve rural health care in Anhui, Fujian, Guizhou, Hebei, Henan, and Shanxi provinces. $110 million. 8/93.

Packaging, Pulp, and Paper

INVESTMENTS IN CHINA

CarnaudMetalbox (Singapore)/NA
Will form joint venture to produce and sell packaging containers in Guangzhou. $21.2 million. (Singapore:85%-PRC:15%). 8/93.

Danish Industrialization Fund for Developing Countries (Denmark)/Beijing Baihua Printing Factory
Formed Beijing Baihua Colour Printing Co., Ltd. printing house in Beijing. $11.4 million. 7/93.

Kerry Beverages Ltd. (HK)/Tianfu Holdings Co.
Will build bottling factory in Sichuan Province. $25 million. (HK:60%-PRC:40%). 8/93.

Petroleum, Natural Gas, and Related Equipment

INVESTMENTS IN CHINA

Agip Co. (Italy)/China National Petroleum Corp.
Will develop oil resources in the Tarim Basin in Xinjiang. 7/93.

British Petroleum Co. (UK), Hong Leong Industries Bhd. (Singapore)/Fuzhou Gas Corp.
Formed joint venture to develop a liquefied petroleum gas plant in Fuzhou. $15.5 million. (UK, Singapore:67%-PRC:33%). 7/93.

Brown & Root Marine, a unit of Halliburton Co. (US)
Will provide safety, control, and communications services for oilfield development in the South China Sea. $19.3 million. 7/93.

CHINA'S INVESTMENTS ABROAD

China Petroleum Corp./Charoen Pokhand Group (Thailand)
Formed Petroasia Co. to engage in petroleum industry in Thailand and Laos. 7/93.

SINOCHEM/Kuwait Petroleum Corp. (Kuwait)
Signed letter of intent to buy Kuwaiti crude oil. 7/93.

OTHER

Japan
Will provide loan to open up the Ansai oil field in Shaanxi Province. $150 million. 8/93.

Ports and Shipping

INVESTMENTS IN CHINA

Marubeni Corp. (Japan)/Shanghai Waigaoqiao Port Service Co., SINOTRANS Shanghai, Shanghai Waigaoqiao Free Trade Zone United Development Co.
Formed Shanghai Logistics Co. to provide distribution services in Shanghai. $25 million. (Japan:60%-PRC:40%). 8/93.

OTHER

American President Lines (US)
Will operate feeder service between Xingang and Dalian in China to Kobe and Yokohama in Japan. 8/93.

Power Generation Equipment

CHINA'S IMPORTS

A/O Energomashexport (CIS)/Huaneng International Power Development Corp.
Will sell four turbine generator units. $100 million. 7/93.

INVESTMENTS IN CHINA

Atlas Developments (Australia)/Shanxi Electric Power, Jilida Corp. (Guangdong)
Formed venture to manage and develop second phase of Shantou No. 2 Power Station. $2.5 billion. 7/93.

Siemens Power Transmission & Distribution Group (Germany)/Shanghai Electrical Apparatus Corp.
Formed Siemens Switchgears in Shanghai. $15 million. (Germany:55%-PRC:45%). 7/93.

Property Management and Development

INVESTMENTS IN CHINA

Keppel Corp. (Singapore)/Suzhou, Jiangsu provincial government
Formed joint venture to develop 28 sq m plot. 8/93.

Aether Land, a subsidiary of DBS Land (Singapore), Linkerway Development (NA)/Beijing Xing Li Real Estate Development Co.
Will convert a factory into a residential and commercial complex in Beijing. (Singapore, NA:60%-PRC:40%). 7/93.

NA (HK)/NA (Shanghai)
Will construct "Yufo (Jade Buddha) Town," a residential and commercial complex in Shanghai. $150 million. 7/93.

New World Development (HK)/Wuhan City Municipal and Rural Development Co.
Formed venture to develop a major housing complex in Wuhan. 7/93.

The Dragon Co. (HK)/NA (Inner Mongolia)
Signed contract with local companies to develop property in Hohhot. $174 million. 7/93.

Telecommunications

CHINA'S IMPORTS

Alcatel Sesa, a subsidy of Alcatel S.A.(France)/China National Machinery Import-Export Corp.
Will supply equipment for 270,000 new telephone lines. $42 million. 8/93.

Northern Telecom (Canada)/China National Machinery Import-Export Corp.
Will supply computer-controlled exchanges and signal transmission equipment to Beijing and Hebei Province. $300 million. 8/93.

MTC Electronic Technologies (Canada)/China Great Wall Industry Corp. (Shanghai)
Will provide cellular telephone and paging systems to Guangdong Province. 7/93.

Newbridge Networks (NA)/Shenzhen Telecommunications Equipment Corp.
Will supply networking equipment. $5 million. 7/93.

Northern Telecom Ltd. (US)
Sold central office switching systems to Sichuan, Hebei, and Jilin provinces. $102 million. 7/93.

Siemens Telecommunications SpA (Italy), a subsidiary of Siemens AG (Germany)/Lijiang Radio Factory (Guangxi)
Will export low- and medium-capacity digital radio equipment. 7/93.

INVESTMENTS IN CHINA

Star Paging (HK)/China Yuanwang Corp., China Great Wall Industry Corp.
Formed China Satellite Launch Agents to provide satellite launching, piggy-back payload, and tracking services. $385,000. (HK:40%-PRC:60%). 7/93.

OTHER

Star TV, a subsidiary of Hutchison Whampoa (HK)/APT Satellite Co.
Bought a 80% controlling interest in APT. $152 million. 7/93.

Transportation

INVESTMENTS IN CHINA

Enstrom Helicopter Co. (US)/NA (Hubei)
Formed joint venture to produce light helicopters in Wuhan. $18 million. (US:49%-PRC:51%). 7/93.

Honda Motor Co. (Japan)/Yancheng Automobile Co. (Guangzhou)
Agreed to assemble Civic sedans in Yancheng. 7/93.

Hyundai Motor Co. (S.Korea)/Dalian Municipal Government
Will form joint venture to build a factory in Dalian. 7/93.

Oriental Real Estate and Investment (HK)/NA (Tianjin)
Formed Tianjin Oriental High-Speed Transport Co. to finance a light-rail line between Tianjin and Tanggu Harbor. 7/93.

Sembawang Marine (Singapore)/China Three Gorges Transportation and Storage Corp., Zhuhai Daming Enterprise
Signed letter of intent to provide transportation during the Three Gorges Project. (Singapore:40%-PRC:60%). 7/93.

OTHER

The Boeing Co. (US)/China Southern Airlines
Will lease 11 passenger planes. 7/93.

The Boeing Co. (US)/Xiamen Airlines
Sold two 757-200 airplanes with US Export-Import Bank guarantee. $103 million. 7/93.

Miscellaneous

INVESTMENTS IN CHINA

Baker & McKenzie (US)
Opened a law office in Beijing. 7/93.

NA (Thailand)/NA (Anhui)
Will raise alligators for commercial purposes in Anhui. 7/93.

CHINA'S INVESTMENTS ABROAD

J.H. Law Office
Opened a law office in New York. 7/93.

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